

March 2002  
Volume 70 No 3



# Amateur Radio

## Fox-hunting Fun for Families at Field Days

- ★ The Double Tuned Crystal Set Tuner
- ★ "Tone-a-Tune" Audible SWR Bridge
- ★ Charlie's Grid Dip Meter





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**Urunga Field Day 2001: 80m  
Junior Fox Hunts, won by Reese  
Austin on Saturday, Carl Winkler  
on Sunday**

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## Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, How to write for Amateur Radio is available from the Federal Office on receipt of a stamped self-addressed envelope.

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The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

## Amateur Radio Service

A radio communication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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## Editor's Comment

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## AR must change, but how?

Most of you will have heard about the survey being conducted by WIA Federal on the future form of AR Magazine. This has come about because of the proportion of the WIA Federal Budget, which is taken up by the publication of AR Magazine. Unfortunately if we want a magazine some cost is involved and the present magazine is being produced at the lowest possible cost for a reasonable quality magazine.

Any variation in paper quality to give sharper photographs and diagrams for example will cause a significant cost increase not only for paper but it would also require a change of printing press also at higher cost.

The Editor receives an Honorarium for the time he has to devote to preparing the magazine, a 365 day a year job, but all the other WIA members involved in producing AR are volunteers. Removing the Honorarium would make little difference to the cost of producing the magazine but the time involved requires some recognition by the members.

Now the content of the magazine is also provided free. There are no payments to authors, more volunteers. If we want specific topics covered we have to find volunteers to write the articles. There is no money to commission material. Some material from overseas is brought to the Editor's attention but in all honesty there is little that can be published in AR without modification for local conditions eg in technical construction articles, local suppliers of components. Who is going to find time to research this unless they have done the searching to build it themselves? Usually they have little inclination to write the local version. Occasionally this happens: we are presently preparing an article which originally appeared in *Electron*. This is one of the Dutch AR Society Journals but only because we had a member who was fluent in Dutch and was willing to do the translation.

My feeling from the lack of feedback is that AR is OK, could be

better, could be much worse. I publish mainly simple technical articles because the older membership is not into big projects. I'm not sure what the younger group do, but maybe they are much more IT literate and they exchange information on the net within special interest groups. None of this is polished for publication in a "formal" magazine.

So I will continue to put the magazine together from what members submit for inclusion. I will use articles from overseas AR Society Journals when they are passed to me.

### Show us what you are doing!

I'm told the recent Hamfests at Wyong and Healesville went well. Unfortunately the only photo I have seen of Wyong shows mainly the backs of attendees. So if there are any good, clear, bright faced photos of people and equipment at a recent event out there, either hard copy photographs or 3megapixel digital, I would like to use one on an AR Cover with a report on the event. The John Moyle Field Day should also have provided photographic opportunities, however four element beams at sixty feet have all been seen before.

I am hoping to run a multi band FD station 1.8MHz to 1.296GHz. When your station is an FT101E and some ex commercial VHF Xcvers and a kit built transverter for 1.296GHz it takes a bit of packing and power reticulation planning and of course when you have done all that you still have to select the aeriels and how and where you will mount them. Are you also going to get out there on FD and have some fun? The other side of it is that it is an exercise in preparedness for emergency communications.

73 Colwyn VK5UE



## Amateur Radio: linking the nation again

Amateur Radio Operators are often found among the ranks of early pioneers in Australia. While many people are aware of the exploits of people like Traeger there are many more whose names and endeavours are only known to the amateur radio community.

When I talk to non-amateurs I can take pride in identifying the role that amateurs had to play in shaping many of today's modern communications methods. Experimentation is after all one of the prime reasons for the existence of the amateur radio licence. This is not to say that experimentation is all about building esoteric circuits and getting them to operate on air. This was brought home to me today as I took part in efforts to bring the Internet Radio Linking Project (IRLP) to the last Australian territory, namely the ACT.

After some trials and tribulations the task was completed on Sunday 17 February, an important day for amateur radio in Australia for a number of reasons. Firstly it is a metaphor for the way amateur radio can bring people together, both within Australia and the world. Secondly it reinstates the value of self-education in amateur radio. Much of the implementation required that amateurs learn a wide range of new skills. Finally it was personally significant, making me realise that amateur radio is an evolving hobby. One of the first contacts was with the owner of an IRLP node in the North of England to a UK station licenced under the new foundation licence arrangements. I look forward to the release of the Productivity Commission report in early March 2002, hoping that the need for a foundation licence has been recognised, and that the report recommends the required changes to the legislation to permit its introduction. We need the enthusiasm of new members who will propel amateur radio into the future.

### Legal Operations

For some months the WIA has been working with the ACA to reach agreement on a public statement of an interpretation of the ways in which IRLP

can be legally operated in Australia under the terms of the current Licence Conditions Determination (LCD). I hope that this work can be finalised in the near future so that all amateur operators can be aware of how to correctly build such installations. This work has been spurred on by a concern that some amateurs have been operating in a manner which might well be illegal. At this stage whilst the ACA has indicated that it is happy with the authentication and operating principles of IRLP they have yet to commit to other Internet linking mechanisms such as iLink and winLink. The WIA cautions all amateurs against operating in a manner which is in violation of their licence.

### AR

I released a draft of the AR discussion paper in late February to the members of the Federal council and executive. Some of you may well have received copies already - if not have a chat with your local Divisional council in order to obtain a copy. At this stage we are not considering any new options other than those already identified in earlier reports on progress. The main variation that has been introduced in the options paper is to consider a hybrid approach with both news stand and web based delivery of AR as a way of meeting the range of stated member preferences. Adopting this approach can be viewed as a way of meeting all members' delivery needs as well as serving as a means of putting amateur radio in front of the public. For some time now we have asked the question "How can we attract new members?" The response often entails the use of a marketing campaign to present the details of what amateur radio is about to the General Public. Placing AR on the newsstands is a great way of achieving this while at the same time placing its future on a sound financial footing.

The decision of where we go from here is to a large extent dependent on Federal Council and the advice that I receive from them. If you want to help to

influence the decision you should make your representations to your local Divisional council members. After an initial review I hope that we will be able to publish the options paper to all members so that they can see the details of the options being examined and more importantly participate in the debate.

### Examinations

There has been a considerable amount of discussion in the last few weeks about the recent changes to the amateur examination invigilation scheme. Whilst I am sure that some of you may be unhappy with the current scheme there are two factors that I would ask you to consider. These changes are to a large extent only the first changes of a two stage process. Last year we indicated to the ACA in our response to an open tender invitation that the WIA would be happy to take on the full responsibility for administering all amateur examinations in Australia. For us to be able to do this we need to demonstrate impartiality in the way that the examinations are administered. If, as hoped, the ACA do in fact devolve full responsibility for the management of amateur examinations to us then the recently announced changes will need to be further refined. The experience that we have gained in this first round of change will I hope make it much easier for us to develop a system that both meets the ACA's requirements for impartiality as well as meeting the needs of the instructors and invigilators. I am keenly aware of the efforts of the many individuals who give freely of their time in order to ensure that new amateurs can receive the instruction, coaching, and easily accessible, supervised examinations that they need to gain their certificates of competence in order to become licenced operators. Thank you for all of your efforts.

73s and I hope next month to be able to report on discussions held at the Wyong field day

# "Tone-a-Tune"

## Audible SWR Bridge

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In radio transmitting work, an instrument that finds frequent use is our trusty SWR bridge. Generally, the indication given to the user is a visual one, by means of a moving coil meter or meters, or LED bar graphs—which is fine for persons with good eyesight. And if you have poor, or no eyesight—what to do? Offered here are details of a handy little bridge, which gives an audible indication of relative SWR.

After calibration in the (F)orward direction, the bridge is switched to read (R)everse, where a lower frequency tone will be heard. When adjusting an antenna coupler for instance, the user simply adjusts the coupler controls for lowest tone (or silence, for SWR of 1).

Unlike "strip-line" type bridges, the transformer pattern (Ref 3) has substantially flat sensitivity from 1.8 MHz to at least 50 MHz (but not 144 MHz), and may be used at power levels from as low as 1 W (QRP) to the legal CW limit of 120 W.

### Circuit

Transformer T1 (see Fig 1) is formed by passing a short length of RG-58 coax cable through a toroidal core, which has 12 turns wound upon it. The coil, which responds mainly to the current component of the electro-magnetic field flowing along the coax sample, is terminated with a 54 ohm resistance, comprised of two 27 ohm resistors connected in series. The junction of the 27 ohm resistors is connected to a series voltage divider comprised of a 4.7 k

resistor and 500 ohm trim pot, at which a portion of the electric (voltage) component of the field is injected. When RF energy is flowing along the coax, and the (Ant)enna connector is terminated in a purely resistive load of 50 ohms, the voltage induced in the transformer winding will aid the electric field sample at one end of the winding, and exactly oppose (or cancel) the voltage obtained at the other end. Now, if the terminating impedance deviates from 50 ohms resistive, there will be proportionately less cancellation, resulting in a net voltage available for detection on the (R)eflected side of the coil winding. Germanium diodes detect the voltages thus obtained at each end of

the coil winding, and their resultant relative dc values are established upon the slider of the dual-gang sensitivity pot. (F)orward and (R)eflected readings are selected with switch S2.

To provide an audible reading, an ordinary NE-555 timer chip is wired as an astable oscillator. Trigger point may be altered (and therefore the frequency) by varying the voltage applied to the discharge pin 7, thus making the '555 behave as a voltage controlled oscillator. When the voltage (with respect to ground pin 1) equals, or is less than about +6 V, the chip stops oscillating. As the positive voltage is raised beyond 6 V, the circuit will oscillate at an increasingly higher frequency, as noted above. In order to make the '555 respond to dc levels just over 0 V, a positive bias voltage must be applied. The necessary bias is supplied by the voltage divider comprised of the 10 k - 10 k trimpot - 22 k resistor string. The slider of the trimpot is set for about +6 V. Now, input voltage, resulting from the dc signal from each SWR bridge diode will add to the standing bias voltage, and thus cause the '555 to oscillate. The frequency of oscillation will rise in proportion to the degree of mis-match (higher SWR) when the dc level from the (R)eflection diode is selected by S2.

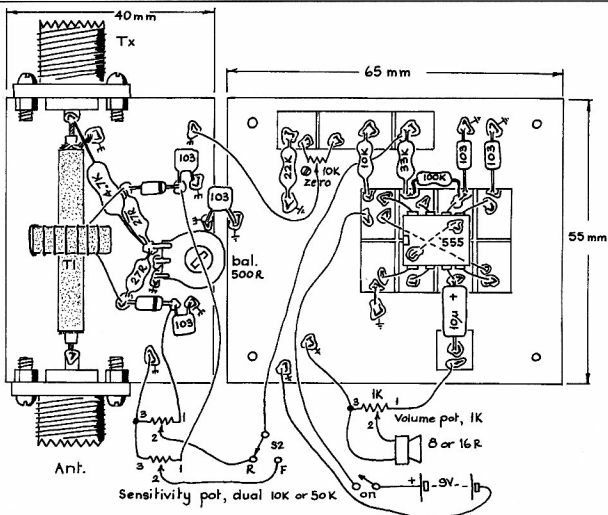
Note that the SWR bridge "ground" PC foil and the NE-555's "ground" foil (-9 V rail) are electrically separate with regard to dc.

### Construction

A plain circuit board measuring 55 x 40 accommodates the SWR bridge components, and a separate plain circuit board measuring 55 X 65 mm contains most of the components for the







oscillator. For the device to work properly, the arrangement of the SWR bridge components should be duplicated as closely as practicable. A suggested 'paddyboard' (see Ref 2) layout is shown in Fig. 2. The RG-58 coax jacket is a snug fit through the hole of the toroidal core. Note that the braid is connected to foil at one end only. It is recommended that the '555 chip be fitted into a suitable 8-pin I.C. socket and soldered with tinned wires (about 0.6 mm) to an 8-land substrate, which in turn may be super-glued upon your circuit board.

The case shown is a 'jiffy' box

measuring 130 x 68 x 44 mm, and is available from the usual electronics suppliers. An internal view of the prototype is shown in Photo 2. Leave sufficient hook-up wire lead lengths so that the front cover may be fully opened for access. An external holder for the battery is recommended.

## Operation

Give the wiring, soldering and parts placement a thorough visual inspection. Install a fresh (preferably alkaline- for lowest internal resistance) 9 V 'transistor' battery. Set all pots and trim pots to about half travel. Switch on. You

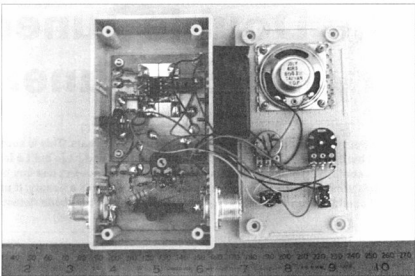
may hear a tone, or buzz. Vary the zero trim pot through its range, then set it at the point where oscillation just ceases, thus establishing best sensitivity for the oscillator. Using coax cables, connect the TX connector to the transmitter's output, and connect a low SWR, suitably rated 50 ohm dummy load to the Ant connector. Key the transmitter on and apply a CW tuning signal to the bridge. In one of the positions of S2 you should hear a tone. You should be able to vary the tone frequency by changing the setting of the sens(itivity) pot. One setting of S2 will yield a high tone, the other a low one. The low setting turns

out to be the (R)eflected position of S2. With S2 in the (F)orward position, adjust the sens pot for a tone of about 300 Hz. Switch S2 to (R)eflected, and carefully adjust the 500 R bal pot for lowest tone-or silence, indicating SWR = 1.

In use, a tuning signal is applied with S2 set to (F), and the sens pot is adjusted for a tone of about 300 Hz. S2 is then flicked to (R), where a lower tone (or silence) should be heard. When adjusting an antenna coupler for instance, the coupler's controls are adjusted, as required, to bring the (R) tone down to as low a frequency as possible, and preferably to zero (silence).

### Parts

Most of the components specified are available from our familiar electronics vendors, including Altronics, Dick Smith Electronics, Electronic World and Jaycar. My 'jiffy' box is a Jaycar HB6023. The 1 k vol pot and dual 10 k (or 50 k) sens pot should be miniature types, and miniature switches are also suggested for S1 and S2. The speaker may be a small transistor radio type, 8 or 16 ohms. See Hamads in Amateur Radio for your local Amidon core supplier.



### References and Further Reading:

1. Conversations with Dave Buck, VK3AAD.
2. "Paddyboard" Circuit Construction; Diamond, AR, Feb. '95.
3. "A Twin-meter SWR Bridge"; Diamond, AR May '99.
4. I.C. Timer Cookbook; W. Jung. Sams Publications.
5. Engineer's Notebook, F. Mims. Archer Publications.
6. 555 Timer and Applications; M. Sharma. BPB Publications.

## Episode Four of Types of Emission

### SUB-SECTION IIB - Optional characteristics for the classification of emission

#### #7 The optional characteristics should be added for a more complete description.

These are:

##### Fourth symbol - Details of signal (s)

##### Fifth symbol - Nature of multiplexing

Where the fourth or fifth symbol is used it shall be indicated as below.

Where the fourth or the fifth symbol is not used this should be indicated by a dash where each symbol would otherwise appear.

##### 1) Fourth symbol - Details of signal (s)

- 1.1) Two-condition code with elements of differing numbers and/or durations

**A**

- 1.2) Two-condition code with elements of the same number and duration without -error correction

**B**

- 1.3) Two-condition code with elements of the same number and duration and error-correction

**C**

- 1.4) Four-condition code in which each condition represents a signal element (or one or more bits)

**D**

- 1.5) Multi-condition code in which each condition represents a signal element (of one or more bits)

**E**

- 1.6) Multi-condition code in which each condition or combination of conditions represents a character

**F**

- 1.7) Sound of broadcasting quality (monophonic)

**G**

- 1.8) Sound of broadcasting quality (stereophonic or quadraphonic)

**H**

- 1.9) Sound of commercial quality (excluding categories given in #1.10) and 1.11)

**J**

- 1.10) Sound of commercial quality with the use of frequency inversion or band-splitting

**K**

- 1.11) Sound of commercial quality with separate frequency-modulated signals to control the level of demodulated signal

**L**

- 1.12) Monochrome

**M**

- 1.13) Colour

**N**

- 1.14) Combination of the above

**W**

- 1.15) Cases not otherwise covered

**X**

Cheers from Henry  
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# The Double Tuned Crystal Set Tuner

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Crystal Sets have undergone a bit of a revival in recent years. This is something I am quite happy about. I built my first crystal set back in my childhood and have built a few more since then. There is something magical about a radio receiver that doesn't use any batteries! The article describes what I call my reference standard crystal set. It is a beauty. It uses two tuned circuits in a novel configuration to provide high selectivity prior to the diode detector.

The unit is primarily designed as a tuner but it will also feed high impedance headphones or a crystal earpiece directly.

As will be seen from the circuit, the set is still very simple and straightforward. I built mine true breadboard style on a piece of pine board using strips of double sided tape to secure the two tuning coils and other components. The main tuning capacitor was glued with a few dabs of a high strength adhesive. I used an old tuning gang salvaged from an old valve receiver for the main tuning and a modern miniature variable capacitor for the preselector tuning.

## Winding the Coils

I wound the coils on short lengths of ordinary ferrite rod material. I used about fifty turns for the main tuning coil and about twice as many for the preselector coil. This is necessary because of the lower maximum capacitance of the miniature tuning capacitor compared to the main tuning capacitor. The connected long wire antenna also has an effect. In all likelihood the exact number of turns will have to be determined by experiment. That's half the fun!

I used quite thin wire salvaged from an old valve receiver IF transformer to wind the coils. Despite what one might think this gave very efficient coils. Using substantially thicker wire was not as efficient. The wire used could be 0.315mm enamelled copper winding wire close wound on ferrite rods. In my model I spaced my coils about two inches apart, once again, in individual versions, this will have to be determined by actual experiment. Also remember to

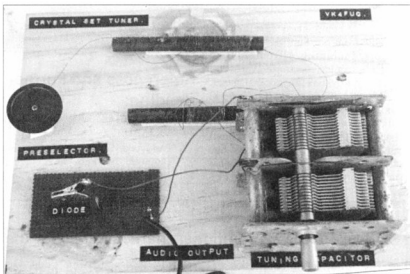


Photo 1. Double Tuned Crystal Set.

observe the winding phasing. A hint - superglue type adhesives make coil winding easy.

## The Detector

When it comes to diode detectors I am reminded of an old television advertisement from the 1970's for a certain engine oil. One could alter it slightly and say, "Diodes ain't Diodes". In all honesty any germanium diode will work in a crystal set but some types are definitely better than others. I favour the use of gold bonded diodes such as the OA47. The 1N60 is acceptable, as is any germanium diode. Many things can affect diode performance, such as the level of signal injection, and diode termination. In the end, the lesson is, use whatever diode works best.

## Using The Set

Depending on location an external antenna and earth will be required. As I am over seventy miles from our local transmitters, at this location, they are definitely required. As was stated earlier this design is primarily intended to feed an amplifier and speakers as it is in my case. As the audio output level is a little low for a line level input I use an outboard one transistor preamp to raise the level. Once again magnetic high impedance headphones or a crystal earpiece can be directly connected. If using a crystal earpiece firstly connect a ten kohm resistor across the output of the detector diode. This is very important. The diode requires a resistive termination to function properly.

If using a preamp arrange the circuit to provide this. On my preamp the input



level control serves this purpose. In use both tuning capacitors need to be peaked to the same frequency. The main tuning will be somewhat broad, the preselector tuning, sharper.

That's it, the best part, the audio quality has to be heard to be believed.

## Parts List

L1 80-100 turns 0.315mm enamelled copper wire close wound on ferrite rod depending on local conditions.

L2 50 turns 0.315 mm enamelled copper wire close wound on ferrite rod.

VC1 Miniature Variable Capacitor, Max 260pF.

VC2 450 pF variable Capacitor from old valve receiver.

D1 OA47 Germanium Diode.

C1 0.002 mF ceramic capacitor.

R1 10 kohm metal film resistor, if needed for diode termination.

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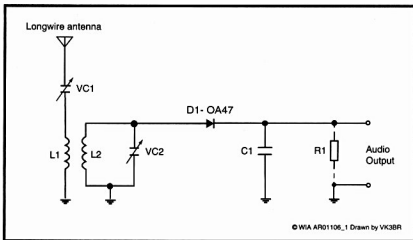


Figure 1. Double Tuned Crystal Set Circuit.

## Federal WIA Convention

## Appointment to Federal Positions

The WIA Federal Convention and Annual General Meeting of the WIA will be held in Melbourne on  
**17, 18 & 19 May 2002**

At this meeting, a number of positions will be filled. Nominations from interested persons must be received by the Federal Secretary at the registered office of WIA Federal in Melbourne no later than close of business on 5<sup>th</sup> April 2002.

The positions are

**President**

**Directors (3 positions to be filled)**

**Company Secretary**

**Editor "Amateur Radio" magazine**

**Publications Committee (5 positions)**

**WIA/ACA Liaison Committee (3 positions)**

**IARU Region III Liaison Officer**

**ITU Conference & Study Group**

**Federal Web Page Coordinator**

**Chairman Federal Technical Advisory Committee**

**Federal Education Coordinator**

**Federal Historian**

**AMSAT Coordinator**

**Intruder Watch Coordinator**

**Federal Contest Coordinator**

**Federal Awards Manager**

**Federal WICEN Coordinator**

**International Travel Host**

**ARDF Coordinator**

**Federal QSL Manager**

**VK9/VK0 QSL Bureau**

**QSL Collection Curator**

**Videotape Coordinator**

Nominations received direct will be considered but preference is likely to be given to Divisional nominees

**Peter J. Naish VK2BPN**

**Federal Secretary**

## Unlikely Projects

# Charlie's Toys No 1. Grid Dip Meter

Charlie Sims VK2ABF QTHR

Email: chasims@ozemail.com.au

Fax: (by arrangement only) 02 96359937

Voice line: 02 96359937

M/Hd: QF56LE

## How it just grew

My need for a reliable G.D. Meter arose when I purchased two ex-taxi phone boards for \$2 each. The objective was to have a couple of two metre receivers to continuously monitor the packet net.

My Pkt address is VK2ABF@VK2GJB. Heck, does one realise that a video monitor consumes about 250 watts by itself. What price the power bill! Hi!

Now, my commercial GDO is quite twitchy at 144 MHz, when it's able to get up that far, that is; in fact I'd had enough of solid state GDOs. The old vacuum tube version seemed to be the answer.

### Which tube then?

The old 955 acorn tube, if not gassy, suffers from surplus lead length, leaving very little for the hairpin inductor thus

requiring an extension link to get into typical 2 m circuitry. Not a likely choice really, maybe the triode of a 6U8 or 6BL8 ex TV tuner vintage may suffice.

My friend, who sold me the boards suggested a 5718 with pigtail leads—said it was good to 700 MHz. He also drew me up a butterfly variable capacitor to go with it. I liked the tube, but needed more coverage than a small segment of the band. A small butterfly wouldn't give enough coverage, I thought. Among my treasures was a wide spaced "condenser" of about 70 pf capacitance. Unlikely, but just wait and see! Because

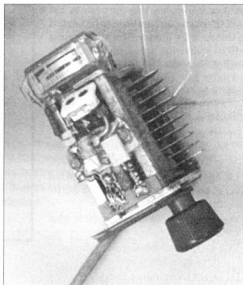


Photo 1

the stator plates had central side mounts, I was able to saw the two halves on alternate sides of the mounts, —what butchery! Also the three central stator plates were removed—using the same abrasive saw. (Wire with grit stuck on.) Hardware stores have them for about \$10. The remaining stator plates became three only per segment, bringing the "C" for the circuit to about 25-30pf. The saw cut gaps were restored using pieces of toothpick dipped in Araldite. (TM.) See fig. 1.

### Construction in brief

Now, legs to the two segments were provided—terminated by a 300 ohm TV socket at the corner of the instrument—not like most GDOs which have the hairpin outlet fair in the end of a biggish (in proportion) box. The longest leg was made much fatter to make it think it was part of the rear stator segment. Hairpins were made in random fashion with the most likely ones selected for service. Photo 1 shows the circuitry.

The valve (type 5718) and other tuned circuit components were tucked in to ensure the shortest lead length. In the second photograph you can see how snugly the valve tucks into the capacitor. You can also read the type No., and just have a gander at those nice short leads! However, the edge-view meter (cheap) sits in line of sight, just below the inductor socket. Many of the components can be seen in both photographs. Coils are identified by

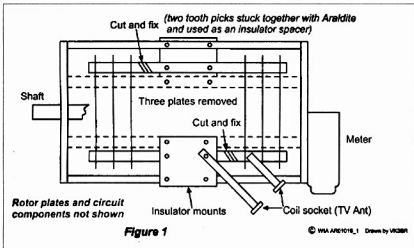


Figure 1

© WSA ARE1018\_1 Drawn by VK2ABF

Figure 1

threading different coloured shrink tube over them and heating to taste. A cigarette lighter was adequate for this. On the other end of the variable capacitor I stuck a 180 degree protractor, a knob on the spindle with flat cursor tipped with a scrap of centrally scribed perspex. Attached is a copy of my calibration Tables 1 and 2, but your's will be different. The calibration listing is given to illustrate how 40 m. and the local oscillator appropriate to it can be just covered by capacitor chosen.

## Feeding the beast

To power up this monster I used a dog-blanket transformer, 240V-25V ac. This was boosted with a string (about 5 X tantalums and 1N4007s) of voltage improver. This gave about 75V, which was short of requirements. However, by reducing the grid leak resistor, I obtained a good needle swing for all ranges. 6.3 volts ac for the heater came from half of a half- burnt-out 12V plug pack tucked inside the dog-box without the cover along with the voltage multiplier, all insulated with scrunched up paper and held steady with double-sided sticky tape and Araldite(TM.) and the lid put on quickly.

This item actually works, and works very well, but who needs a GDO anyway?

Well, the challenge was there, and the alternative was to toss out all those

precious treasures that I had kept for years.

## The Circuit

Any GDO circuit will do, they are all the same, aren't they?

## Feedback.

Not the electrical kind, but any helpful suggestions would be appreciated. Unlikely?

Does any contributor expect his project to be duplicated by another enthusiast? I think not, but why not test the water? Hopefully, some readers will read this more than once.

**Editor's Note.** When you're stuck, are you stuck? The junk box does have its uses.

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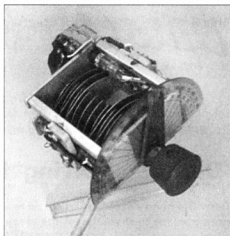


Photo 2

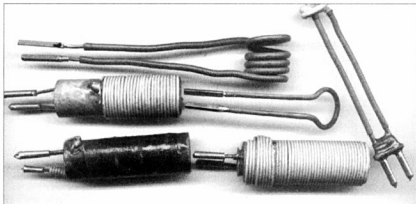


Photo 3

## Calibrations

### Charlie's Grid Dip Meter for determining frequency of tuned circuits

Large Dark Coil	4.75 - 6.0 MHz
Large Light Coil	9.00 - 12.0 MHz
Small Light Coil	14.00 - 20.0 MHz
Top Coil	53.00 - 75.0 MHz

Table 1 (See photo 3)

### 2 metre calibration

Degree	MHz	Degree	MHz
0	130	130	144
36	134	135	145
42	135	146	146
52	136	155	147
64	137	164	148
		180	150

Table 2

## Club News

### New IRLP Node in Melbourne

Melbourne's first IRLP Node on the 70cm band is up and running via the Arthur's Seat repeater on a frequency of 439.725 MHz.

The node is operated by members of the Bass amateur Radio IRLP Group.

We invite all amateurs to try the IRLP. Our operators will be only too happy to demonstrate IRLP.

For further information you can contact our group by phone, 03 5982 0315, or write to the Secretary at PO Box 368, Rosebud Vic 3939

# True Confessions of a Bin Raider

## 'Dumpster Diving' for Fun and Profit

Drew Diamond's excellent article on rewinding power transformers (AR, Sept 2001) prompted me to share the results of my recent experience with that annual Aussie ritual euphemistically called "Council Cleanup". This is wherein dozens, if not hundreds of perfectly serviceable transformers suitable for amateur projects are delivered to the curbside to await the opportunistic electronic experimenter.

John Kirk VK2PV/VE6XT,  
Ph. (02) 9245-6372, Fax (02) 9492-2639,  
E-mail: john\_kirk@brambles.com.au



Invariably, they are disguised as dead microwave ovens, but don't be fooled – every one is the cornerstone of a decent high current, low voltage power supply. If we had our druthers, we'd accept only carcasses of the behemoth of the microwave kingdom, the 1.0 or even 1.1 kW "nuker", though even their littler cousins provide good practice material and gifts for friends too proud to dumpster-dive!

Inspired by a QEX article of a few years ago (Build a High Voltage Power Supply at Low Cost, Henderson, Jan 1998 QEX, 47), my first "dive" resulted in a few pearls to play with.

By application of Drew's formula:  $Watts = (5.58 \times \text{core area})^2$  we find the pig iron within to be in reality around 500 watts. Clearly, microwave ovens are spec'd out in "marketing watts", a unit of measure akin to "peak audio power", which has severed all ties with the laws of physics that govern us mere mortals. Nonetheless, this transformer shows real potential in amateur applications, even for those of us with current-hungry vhf "bricks". Dimensions compare

favourably with the unit in my store-bought 35-amp power supply, confirming that we're probably onto a good thing.

Because these transformers have welded laminations (presumably to cut down the chatter amongst those loose 'E's and 'I's), our approach has to be a little different than Drew's. The secondary and primary are not wound "over/under", as we are accustomed to seeing with control transformers but rather side by side, with a generous gap in between. This enables us, with a little care, to remove the existing high voltage winding with precision surgical instruments such as hacksaw and wood chisel. Don't use the good chisels – this is rough service!

Remember: small gauge wire = secondary = discard. Large gauge = primary = keep. This will seem obvious to the grey-bearded "hollow-state" generation, but somewhat counter-intuitive to those of us that earned our stripes releasing the imprisoned smoke from within silicon fuses.

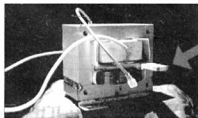
Also on board will be a heavily insulated 3.15-volt filament winding. Count the turns as you peel this off to confirm the "turns per volt" ratio, but I've yet to see one that wasn't a fortuitous 1 turn per volt, making the math coming up dead easy.

Another peculiarity of microwave transformers is the presence of one or more magnetic shunts. What the %^&\* is a magnetic shunt? I still don't really know, but they were described to me as a deliberate attempt to make the

transformer suck wind under heavy load. I agonized over this after reading Henderson's article, but in practice, they're easy to deal with – look for 1 to 2 small lamination blocks that look like they could be convinced to vacate, and apply appropriate blunt trauma with a block of wood and hammer.

The carcass that remains will have a generous winding window. That, combined with the 1 turn per volt ratio, makes rewinding a snap. Because we'll be drawing the entire length of wire "through the keyhole" with every turn, you'll want to precut a suitable length, rather than work with the whole roll. Both from an availability standpoint and ease of winding, it may be preferable to parallel 2 or more smaller gauge windings to achieve the desired "oomph". Since we've generally got lots of real estate to play with, it might be worth considering doubling up the secondary turns, enabling us to go to the more efficient 2-diode bridge configuration.

There you have it! Before we return the patient to the curbside, we would probably consider scavenging the AC power cord, fuse block, control PC board and possibly some sheet metal, but in reality, there's not much else to interest us here. A true stealth artist, working under cover of darkness, could have the patient back at the neighbour's rubbish pile before they even missed it, albeit several kilos lighter!



Magnetic shunt #1 about to part company with the transformer. Shunt #2 still in place

# Morse sending made easy

Neville Mattick VK2QF (ex 4W/VK2QF)

It wasn't until three years ago that Morse sending became a problem to me. It has been explained by the discovery of a rare genetic disorder that causes reduced fine hand control. Now I know why my handwriting is nearly illegible and has been always. What a problem, Morse sending is garbage and frustrating with aches and pains both in the wrist and ears from all the mistakes.

Suddenly a link on the UKSMG (UK Six Metre Group) announcements page directed me to the home of Steve K1EL and his micro controller (or PIC) CW generators.

These amazing little devices are the Radio Amateur's answer to all aspects of Morse generation. They make programmed EPROM's redundant for fixed ID on say repeaters or the home station. A range of models is available. My first was the K10, a standalone keyer with paddle input and many features. This worked well with its four volatile memories, but the operation of a paddle was still a chore.

Along came the K20, this is paradise! The K20 is a standalone PIC built on a small circuit board with the following amazing features:

- Built-In PS/2 AT Keyboard Interface
- Iambic CW Paddle Interface
- PTT Output: Open Collector (low true)
- Adjustable lead in and tail delays
- Key Output: Open Collector (low true)
- Adjustable Speed 5-99 WPM
- Adjustable Dit/Dah Weighting
- Adjustable Character Spacing
- Built-In Sidetone Generator
- On Board Speaker
- Sidetone with adjustable frequency
- 12 Message memories
- No crystals or oscillators
- Operating Voltage: 8-18 Vdc
- On board regulated 5 volt supply
- Current Draw: <5 mA less keyboard
- Embedded commands in messages
- Iambic A, B, and "Bug" keyer modes
- Built in CW practice modes
- Autospace
- First Dit/Dah adjustable correction
- HSCW Output Capability

Several of these units have been made and all worked flawlessly straight off the workbench. All that is required to

control the K20 is a standard PC keyboard with a PS/2 or mini din plug.

The twelve function keys on the keyboard provide memory functions that are written to the EPROM as they are saved along with a host of user preset functions. These are available each time the keyer is turned on, so no need to program anything after the initial setup!

One of the most useful functions is the beacon feature that enables a message to be programmed in and have it repeat with a preset delay or speed variation. As a result of the intermittent power experienced in my recent East Timor activities Steve K1EL incorporated a

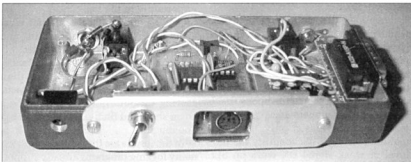
'persistent beacon' feature that has the keyer resume the message in 'Function button one' whenever powered on or until the Escape key is pressed. The full manual is available for download at the Internet address below.

To contact the designer via mail: Steven T. Elliott K1EL, 43 Meadowcrest Drive, Bedford, NH 03110, USA

Email: K1EL@aol.com or on the Internet <http://members.aol.com/k1el/>

Enjoy the new dimension of precision (yes it has to be heard to be appreciated) Morse!

ar



# Computers in the shack as a logbook!

Neville Mattick VK2QF [ex 4W/VK2QF]

**The shack is a natural place to integrate technology, especially if that technology simplifies using your station [or at least that is the hope!].**

Computers are almost universal these days and are a great tool in the shack. Most rigs can be connected to the conventional personal computer [PC] with a simple cable to a free serial port. Nearly all common brands of amateur transceiver have a serial port [just like that on the PC] somewhere on the rear panel. Add a cable and even a basic computer then some magic in the form of software [code or programming that the computer runs] and presto, a new dimension to the hobby and computers! My experience has been with Kenwood and the TS570s. This little transceiver is an HF and Six metre unit with a receiver that covers continuously from 30kHz to 60MHz.

Kenwood provide a specific 'Remote Control Program' or RCP for short. This file is named RCP2911.ZIP and is available from numerous sites on the Internet such as the Kenwood .com FTP server at <ftp://216.133.235.165/Amateur/RCPsoftware/TS570DRCP2/Rcp2911.zip>.

It requires a little configuration to use, which is covered by the owner's manual. If your transceiver doesn't support remote or computer control there is still a number of programs available to access the rig via a computer.

Contesting is a part of the hobby that I enjoy. I only compete in CW for one reason and one reason only, that is to maintain strong CW capability for low level or weak signal DX work on Six metres [my main AR passion!]. Some

people call this 'cheating' but a QSO is a QSO and is valid for DXCC submission. I estimate the efficiency of Morse to be 3 times that of a phone contact under weak [read normal] conditions on Six metres. The evening of October the 31st 2000 was a good test,

the making. Under the design of Tom N1MM, Terry AB5K and Thomas PA3CEF is N1MM Free Logger. This program is available via the Internet from <http://groups.yahoo.com/group/N1MMLogger>

This is a screen shot of N1MM Free Logger on my PC. The minimum PC needed to run the program properly is a Pentium II 266 or better. This shot shows the two VFO frequencies in the 'band scope' either side of the screen, at the top is the log, with the entry box in the middle. At the lower centre is the 'Info' window which gives band and score summaries for the time on one band and recent multipliers for example.

The program provides many ways for the user to adjust the way it connects to the rig and all the basic variables involved in contesting. CW generation

with N1MM Free Logger is a snap, all from the keyboard with a range of configurable preset or macro commands for calling CQ, exchanging and signing off for example. PSK, DX spotting, phone contesting recording and RTTY are also supported! Kenwood, Icom and some Yaesu rigs are easy to connect with N1MM Free Logger. A comprehensive manual is available for download along with the latest versions of the program.

The manual explains for example how the rig is keyed using either the Serial [sometimes called the mouse port] or Parallel [printer] port. A simple interface is made with a transistor to isolate and drive the rig's keying line.

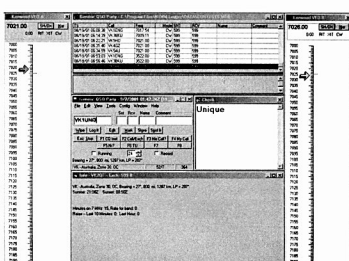
The beauty of all this is that N1MM Free Logger exports your work into a

promise showed for an European opening, 48MHz video and then just under two hours of propagation. 60 QSOs later all around 16,500 km, 9 countries and 5 new entities worked, most were threshold CW contacts, but importantly in the log.

Now having contacts is ok but what about all that log keeping, scoring and submission to the contest manager!

That used to be a tiresome nightmare, typing in say 500 plus QSOs then checking for invalid (or 'dupe') contacts, scoring the multipliers, completing a cover sheet and finally mailing it all off! Too much!

To the rescue are the software authors, many logging programs already support contests or similar and a new one is in

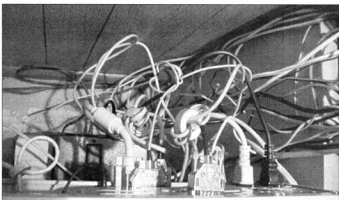




range of formats so that other programs can read the data. Cabrillo is one such format and is universally accepted for contest logs, enabling the manager to score and check the log for errors and dupes. ADIF (or Amateur

Data Interchange Format) is also supported both for import and export. Data in the program is stored in an MS Access database format. A database can hold many contests individually or these may be combined into one running or DX logbook. MS Access can also open the files N1MM Free Logger creates, enabling export in a wide range of formats also!

General DX logging is supported and the next essential step of 'E-QSL' is being developed. This can't happen too soon for my liking. The bane of a good session on air is all those cards that arrive. Amateur Radio must move to a fully electronic and verified QSL system, this could have the upload of the last day's QSOs to a web server and the other



station is immediately able to verify the contact, that will be such an effort saver!

One downside of the computer is noise, both broadband and spots or spurs! The last thing needed during a DX session is rubbish on the DX's frequency. Some computers are poorly shielded so it's important to look for a casing that seals well at the joints. All those cables going to and from are a major cause of noise leakage. One solution is to salvage the toroids from old PC power supplies, cut off the windings and ravel as many PC lead turns through them right at the rear of the box.

This latest PC is very quiet on all but one or two minor spots fortunately after filtering the leads. All these toroids also help to keep stray RF out of the beast as well. Interconnection of PCs has never been easier, in the left of photo 2 is a 100MHz network cable to a hub, and from there it is served by a local proxy machine connected to the Internet.

All this makes watching DX spotting sites a snap whilst on air. Adding a network to just two PCs doesn't require a hub, only a single crossover Cat5 cable, but for the \$150 or so it cost's to connect two PCs via 100MHz network cards and a hub, it is well worth it.

Integrating the PC with Amateur Radio is just a natural extension of our hobby and now that more Internet links are made to interface net surfers with aspects of what we take for granted can only be a good thing.

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## SEANet

The South East Asia Amateur Radio Network (SEANET) was established to 1964 on 20m (14.320 MHz plus or minus QRM). The objective of this Net is to promote fellowship among hams and to relay emergency, medical, urgent or priority traffic. This on-the-air meeting which has taken place without fail daily at 1200 UTC has strengthened unity and co-operation among Hams around the world, especially those within the region. The net also provides Hams a facility for testing their equipment and propagation condition on the 20m band.

The first convention or eyeball QSO of SEANet took place on the island of Penang, Malaysia, in December 1971 when about 30 amateurs met. Present at that historic meeting were the first Net Controller Paddy Gunasekera 4S7PB of Sri Lanka and stalwarts 'Big John' van Leader 9M2IR, 9V1OQ, HS1AIR, Ebbey Lucas 9V1QG of Singapore and Eshee Razak 9M2FK of Malaysia. The second was held in

Bangkok in 1972. Recent Seaneet conferences were held in Pattaya, Thailand in 2000 and Kota Kinabalu, Malaysia in 2001. This year in Perth will be the 30<sup>th</sup> Conference.

SEANET has no permanent Secretariat as such, the devoted net controllers work out a schedule among themselves to run the net. It is through the net controllers that the net has been useful in many ways, such as passing the DX news. Dx-

peditions, handling emergency and medical traffic, all amid assigning frequencies for stations wishing to work each other, although SEANET is not a DX net. Members of this 38 year old network can take credit for many actual life saving communications activities, such as, answering distress calls from yachts and handling traffic for medical emergencies and special medicines.

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## SEANET 2002

**PERTH,  
November 1<sup>ST</sup>, 2<sup>ND</sup>, 3<sup>RD</sup>**

Supported by the Northern Corridor Radio Group. Web site [www.qsl.net/seanet2002](http://www.qsl.net/seanet2002) for all the news.

Contacts [yk6adi@wn.com.au](mailto:yk6adi@wn.com.au) OR [yk6xc@qsl.net](mailto:yk6xc@qsl.net)

# Early Experiments

## Developing Radio Communications for the Flying Doctor Service

Rodney Champness VK3UG  
6 Mundoon Court  
Mooroopna Vic 3629

**When the 20th century was only just a teenager an exceptional man came onto the scene in the outback of Australia. He wanted people in the outback to enjoy many of the facilities that we take for granted in the more populated areas of Australia.**

City dwellers and those in more populated rural areas had reasonable roads (lousy by today's standard), telephones, a postal service, an embryonic wireless (radio to us) entertainment service (if listening to shipping stations transmitting Morse code is entertainment!), railways, reasonable medical services, schools, churches and even motor cars.

What did the people in the outback have? They had space, glorious space, loneliness, hard work, no roads (but a few 4WD standard tracks, in some places), no telephone, certainly no radio, no railways, no medical facilities, few cars, no churches and no educational facilities. The people of the outback sure had it all!

Who was this person that had such forward innovative views, who wanted to change life for the better in the outback? It was the Reverend John Flynn (Flynn of the Inland), a minister in the

Presbyterian Church. He felt a great compassion for these lonely outback people and strove to find ways to make their lives just that bit better. What did he see as the critical needs of the people in the outback? He could see that the most important necessity was medical facilities - doctors, nurses and hospitals. A number of hospitals were built in strategic locations. The resident staffing was two nurses. Yes, that was fine, but how would people several hundred kilometres away access these facilities quickly enough that the person needing the attention didn't die on the way to hospital. Several hundreds of kilometres over rough bush tracks would take days often in sweltering heat. It doesn't bear thinking about.

In 1917 Rev John Flynn read a letter from Clifford Peel which convinced him aircraft would provide the swift transport sick and injured people needed to access medical facilities.

Aircraft were still very much string and chewing gum machines, but within a few years he could see them being the means of providing the necessary swift transport. He even approached the government of the day after WW1 finished suggesting that the military could use their aircraft and pilots to perform these duties instead of idly sitting around telling bigger and bigger fibs about their exploits during the war. The government was not interested. It was suffering from myopia as most have since.

### Wireless for the Outback

The means to call out the "flying doctor" was still exercising Flynn's mind. Telephones were not an economical or practical method of summoning aid. The lines were extremely costly to install and of very doubtful reliability. What other way was there to summon aid? He wondered if the new fangled wireless could be used by people in remote areas to send for aid in an emergency. By 1919 he was convinced that the use of wireless was the means to summon aid to the sick and injured. He actively encouraged radio buffs to come up with a small, portable, inexpensive, amplitude modulated (AM), easy to use transceiver that could be used away from power sources like the mains or 32 volt lighting plants. The Wireless Institute of Australia, WIA, was approached and "Wireless Weekly" ran a competition for people to design this transceiver for the outback. Nothing came of this as no-one could see how to meet the criteria.

In those days, at the beginning of the 1920s, such a transceiver had NEVER been built and the gurus of the time said,

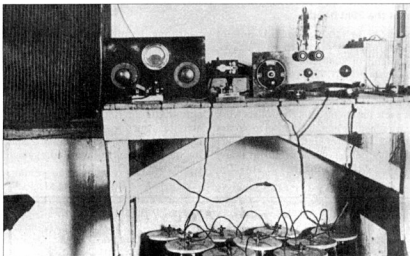


Photo 1. Hermansburg Experimental Station 1928. Installed by Alf Traeger.

"No go, not for quite a few years yet". Radio was very much in its infancy. Flynn was not the sort of man to give up on something that he believed in so strongly. He learnt all he could from books and by experimentation. He spoke with many people asking their opinions and advice. There were two who stood out from the crowd, David Wyles and Harry Kauper. Each endeavoured to persuade Flynn that what he was asking was just not practical at that stage, and to modify his requirements to suit what it was possible to achieve.

I suspect they were exasperated with Flynn. It is interesting to consider that AM broadcasting only started in Australia in late 1923. Wyles told Flynn bluntly that AM wasn't practical at this stage. Operators would have to learn Morse code. Kauper told Flynn to stop mucking around, getting advice from everyone - which was often contradictory - and get someone to help him who really knew what he was doing. Both Wyles and Kauper had put their foot in it. Flynn asked both of them to help him in various ways. Wyles arranged for help from George Towns so that experiments could be conducted in the outback in 1925. Kauper was drafted to assist as Flynn's mentor on technical matters.

In 1925 John Flynn and George Towns assembled a variety of transmitting and receiving equipment. This was to be used in radio communications experiments around the outback, throughout northern South Australia and southern Northern Territory. They received considerable assistance from Kauper who was the chief engineer at 5CL in getting their gear together. To power the equipment Flynn thought up the idea of powering the equipment from a generator attached to the running board of the vehicle. It was powered by a pulley and belt arrangement from one of the back wheels - once it was jacked up.

They tried many generators and all were too variable in their output voltage to be used on free running oscillator cum output type transmitters. The frequency shift with Morse (CW) keying or voice operation was just too much, so that the signal was more like frequency shift keying or FM voice transmission. Remember crystal controlled oscillators were only just starting to be used in transmitters at that stage (1925). Kauper

remembered testing a 600 volt generator made by a young bloke called Alf Traeger. It had proved very good and the suggestion was made to see if the generator was available, as it should be good enough for the job.

Traeger's generator was obtained and used for the trip. The trip proved that radio communications could be achieved between the outback and Adelaide. Being amateurs the 80 metre band was used at night for most of their communications. Voice and Morse code modes were used and success was achieved with both. However it was seen that whilst communications was possible, Morse code was much more practical and effective than voice. Hence voice transmissions from the proposed transceivers was ruled out of contention at that time.

It was also determined that the equipment that they had and the antenna systems they used were not at all suitable for non-technical people to use. Lastly jacking up the car wheel and running a generator from it was totally impractical. There were few cars in the outback anyway.

## The Hermannsburg Experiment

In 1926 another expedition was planned by Flynn and Towns to Stuart, Alice Springs, to test another style of set. A 50 watt AM base would be installed at Stuart, a portable set at Hermannsburg Lutheran Mission and another at the Arltunga Police Station. Kauper was given the task of building the two sets. In fact there were three with the third being used as a spare.

Disaster struck not long before Towns and Flynn were to leave to conduct these further experiments in the centre of Australia. Towns became ill and had to withdraw. Flynn was now desperate, as he needed someone to go with him, otherwise the experiments would have to wait for another year. He approached Harry Kauper to see if he would be able to come. He couldn't due to work commitments at 5CL but suggested a young bloke by the name of Alf Traeger who may be interested in assisting.

Alf Traeger jumped at the chance to be involved and was given the task of getting everything ready for the trip. On arrival at Stuart the base station and 32 volt lighting plant were installed at the

hospital that Flynn had built there a few years before hand. It is now a museum named "Adelaide House" and is alongside the Flynn Memorial Church in Alice Springs. It has some of the memorabilia from that era on display.

Having installed and tested the gear at Stuart and leaving it in the care of a PMG telegraphist Flynn and Traeger set off for Hermannsburg Lutheran Mission. The vehicle was overloaded with around half a ton of batteries and radio equipment. The equipment was installed and tested. The Pastor was taught Morse code rather quickly. I suspect he was up to novice amateur radio operator standard or better within the week or so that the installation took to complete.

There were some hiccups in communicating with Stuart but communications were established on around 88 metres as authorised by the PMG not on the amateur band where earlier experiments had been conducted.

This installation was still not what Flynn needed for the outback but it did prove a number of things. It proved that non-technical people could be taught to use the new fangled wireless transmitting and receiving equipment. They could also be taught Morse well enough to enable them to send it to the base whilst hearing a voice reply.

The gear was still not suitable for the job though and much work remained to be done to develop a suitable transceiver. This came in November 1928 with the prototype "baby" pedal radio.

## The Hermannsburg Station

Over the last few years I have been researching the development of HF radio communications in the outback. I have had assistance from many people who have been involved either in researching the subject or who have been involved in the early days of the flying doctor service. As a consequence of this research many of the mysteries concerning the early pedal radios have been solved.

From the information I have obtained and the tests I have conducted I have been able to determine what the Hermannsburg station is likely to have consisted of. You may care to read "Traeger - The Pedal Radio Man" by the late Rev. Fred McKay to find out a bit

# Hermannsburg experimental transceiver 1926

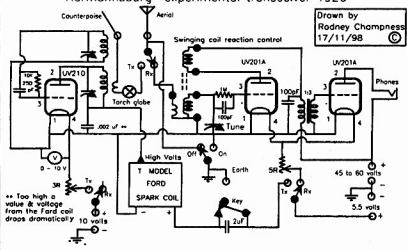


Fig 1. Hermannsburg Transceiver Circuit 1926.

more about all of what I've written so far. From other information sources I accessed what is believed to be part of the circuit of the installation. With all the snippets of information available, a complete circuit has been drawn which is similar if not the same as the original. See Fig 1.

The stations at Hermannsburg and Arltunga were powered by nine Edison primary cells. These cells used copper (oxide) as one plate and zinc as the other and caustic soda as the electrolyte. I have consulted a number of the early respected electrical handbooks endeavouring to find out the facts on the construction and general characteristics of these cells. It seems to be agreed that the cells will develop around 1.1 volts open circuit but under heavy load the voltage delivered to the circuit is around 0.65 to 0.7 volts. What constitutes a heavy load is not specified but appears to be of the order of an amp or two.

The transmitter is believed to have been powered by the nine cells in series, which provided around six volts. The transmitter valve filament would have been supplied with five volts via a rheostat from the six volt battery bank. The full six volts would have been supplied to the Ford T coil. The Ford T coil supplied jagged, raw, nasty AC for the plate of the transmitting valve. It might have been designed to give high voltage for the spark plugs in model T Fords but would also give sufficient voltage when rectified by the transmitter

valve for the transmitter oscillator cum output valve to operate effectively. The transmitting valve was probably an overloaded 201A and would have produced around three watts of radio frequency energy to the antenna.

If the voltage of the cells was 1.1 volts per cell when operating it is likely that a 210 valve was used in the transmitter with its filament fed via a rheostat to provide 7.5 volts for the filament. The Ford T coil would probably have been run off the 10 volts and the transmitter output would have been around five watts.

The signal from the transmitter was interrupted continuous wave (ICW) rather than CW. It would have been rather a broad signal covering quite a few kilohertz with a raucous tone. This type of transmission is banned from the airwaves these days. The transmission frequency would have varied with keying, as the transmitter was a single stage tuned grid tuned plate design coupled directly to the antenna.

The circuit of the transmitter was not different to any extent to the average amateur transmitter of the era. Some amateurs away from the mains did use the Ford T coil as the source of high tension voltage for their transmitters. These transmitters although not up to scratch by today's standards were streets ahead of the spark transmitters that they superseded.

The battery bank was tapped at 3.5 volts. Whether this was used to power

some of the new low voltage battery receiver valves (such as the 199A) is unknown. However it is thought that the receiver used two 201A valves whose filaments were supplied via a rheostat from the six volt battery bank. The HT was supplied by a large Burgess 45 volt dry battery.

If the battery voltage was 10 volts the tapping point would have been at 5.5 volts. This would have been an ideal spot to tap the battery for the receiver 201A valves.

One valve acted as a regenerative detector and the other as a transformer coupled audio stage. It was in reality a standard two valve amateur band receiver and similar to most two valve broadcast receivers of the era. So nothing new here.

Harry Kauper could have saved himself a lot of development time if he and the others John Flynn had coerced into helping had known of the WWI trench radio transceivers of 1917. These sets were not unlike the sets used at Hermannsburg and Arltunga except that they operated below the broadcast band whilst Kauper's design was on short wave. However, military secrets being what they are, Kauper and his friends had no access to this information.

## A Test Transmitter

I built a test transmitter nominally to the design of the Hermannsburg transmitter using a 6CM7 twin triode. See Fig 2. I used the triode with the highest voltage rating (pulse) and the lowest gain to simulate the operating parameters of the 210 or the 201A. The primary of the Ford T coil was keyed and the secondary voltage was rectified in the valve. The voltage to the primary of the Ford T coil was six volts. The transmitter output was measured as three watts.

The transmitter valve only loaded the coil on each half wave hence quite high voltages were evident around the circuit and across the valve when it was not conducting. It was found that the voltage applied to the primary of the Ford T coil had to be reversed to stop flash-over across the tuning capacitor. This occurred because the voltage waveform from the coil is very asymmetrical with a much higher peak voltage in one direction compared to the other. The valve under these conditions could easily flash-over too, and literature of the era indicated this was not an uncommon

that the transmitter required to operate it would be too great to expect even a reasonable life from the batteries. Four series connected 45 volt batteries would have just too much leakage and would likely be flat just when they were needed.

hence emergency calls would be missed. It was decided that the transmitter must be crystal controlled. There was a new development but Harry Kauper and Alf Traeger had successfully experimented with it on the amateur radio bands. The crystal controlled circuit that they developed for the "baby" sets was quite reliable and appears to be better than many of the circuits used by other amateurs radio operators of the era.

There you have it, a precis of the beginning of the development of radio communications in the outback and specifically of the Royal Flying Doctor Service as it became officially known in 1955. Research has revealed some errors and inconsistencies in technical information in some publications and wherever possible these have been corrected. The book I am writing called "Outback Radio" covers this part of the development of radio communications in the outback plus subsequent developments in considerably more detail.

A check was done to see what the signal sounded like on an 80 metre (3.5 to 3.7 MHz) receiver. It sounded terrible, a raucous buzz at the keying rate. One advantage of such a signal at those times was that it spread fairly wide in frequency, so that it was not difficult for the base station to find if it was a little off frequency.

Alf Traeger was now very much involved in the development of a suitable radio transceiver for use by the non-technical people of the outback. Rev John Flynn gave him the task of developing the "baby" transceiver that would allow the outback folk to contact the "mother" station. The "mother" station (radio base station) would be placed where there were facilities such as a hospital, nurses, a doctor, an airfield and access to an aircraft at short notice. Ultimately Cloncurry in Western Queensland was selected as the location for the first flying doctor base.

Over the next two years Alf Traeger with his mentor Harry Kauper solved most of the problems that beset the development of such a revolutionary concept as a simple, easy to use, portable, rugged, light weight, low power consumption, frequency stable (transmitter), 300 mile range, cheap radio transceiver. Wow what a specification! Today this is easily achieved. At that time most military portable transceivers required several technical people, a transport vehicle, and an engine powered electrical supply to make the station operational. The Australian Army is believed to have had a set requiring such a support system and it only had a range of 30 miles.

One of the biggest hurdles that Alf Traeger had to overcome was how to supply power for the transceiver, as at most locations where such sets were to be used there were no sources of electrical power. Dry batteries were not up to the standard of today and would go flat within a few months in the humid tropics. Batteries weren't cheap and getting them to the "baby" transceivers would not be easy. The amount of energy

It was decided that the pedal generator was unsuitable to power the receiver high voltage requirements as the generator created radio interference and it would be tiring pedaling the whole time that a radio schedule was on. The receiver valve filaments were supplied from a 1.5 volt battery.

Kaupar had been experimenting with space charge tetrode valves such as the Philips A141 for use in simple receivers. This valve only required a few volts on its plate to work effectively. A low voltage dry battery would not go flat too quickly in the humid environment of northern Australia. A receiver using two of these valves was designed and proved to work satisfactorily.

The normal tuned grid tuned plate free running oscillator cum transmitter output stage of transmitters of the era was not stable enough to be used by non-technical people in the outback. It would be a certainty that the transmitter would not remain on frequency for long and

# The Manual CW Decoder

## Applying logic to CW learning

Steve Page, VK6BGN  
P.O. Box 383, Wickham, W.A. 6720

This story begins about 4 years ago when I relocated from about 400 km north of Kalgoorlie to the small iron ore town of Wickham, located in the Pilbara some 1500kms north of Perth.

One of the first things I did after I settled in was to locate the old Wickham Ham Radio Clubroom and station. The clubroom and operating station were still there along with a FT-101 HF rig and a 2 element quad for 20 metres.

One afternoon while at the club station I started looking through some of the old A.R. magazines that were of the 1980s vintage. I don't actually remember which month or year the magazine I was looking at but along with other articles for such things as RTTY reception with Basic code and a Tandy TRS-80 computer was an article about CW which caught my attention. It was not a software/hardware technique of decoding but more of a manual hand operated technique or aid for someone who I suppose is just starting out to learn the code.

Some months after I read this article I went back over to the clubroom and looked through all the old mags but couldn't locate this article again. From memory the article was a revisit to a 1930s article which first appeared in QST. Possibly it's time to revisit it again for the newer readers and even for the older readers too.

The manual hand operated decoder in Figure 1a, which again was redrawn from memory and operates in a simple fashion.

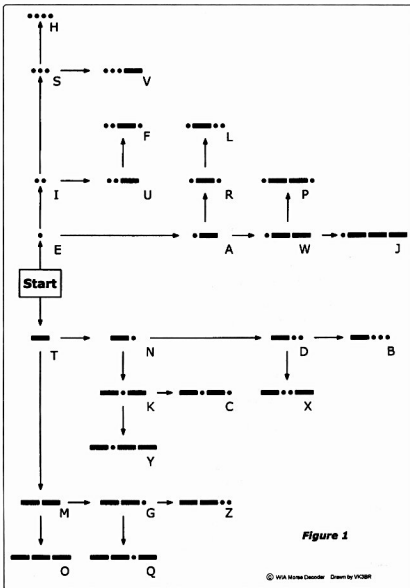


Figure 1a



**John Moyle Field Day**  
**March 16 & 17**



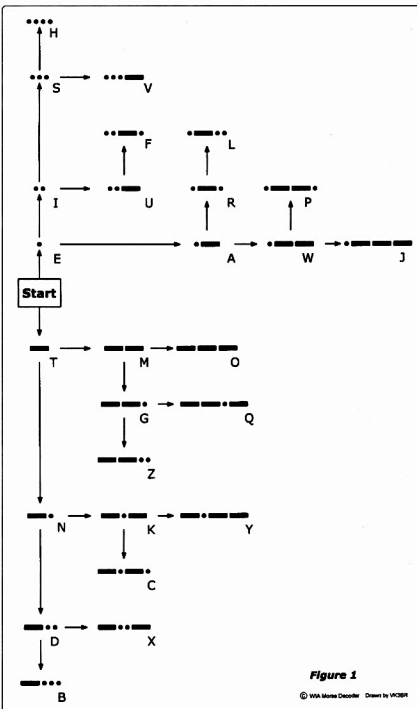


Figure 1

© VFA Morse Decoder Drawn by VOBR

Figure 1b

## The Rules

- 1) Place your finger at the centre start position.
- 2) If you hear a "dot", move your finger up.
- 3) If you hear a "dash" move your finger down.
- 4) If your first move was up, (a dot) and you hear another "dot", move up again, otherwise it's a "dash" and move right.
- 5) If your first move was down, (a dash) and you hear another "dash" move down again, otherwise it's a "dot" and move right.
- 6) If you hear a short break, then the letter is complete, quickly write the letter down with the pen or pencil in the other hand and return your finger to the start position and wait for the next letter. (I'm sure you've got the idea by now)

Obviously this is for slow code, probably somewhere in the vicinity of 5 wpm or even less. Maybe even for some one who doesn't even know the code and would just like to decipher a very slow CW message.

I haven't yet given this a try but I'm sure some where in a deep dark corner of my hard drive is an old DOS CW practice program that could be turned down to just a few words a minute. That's if I can even get a DOS prompt up on the computer monitor when using my new operating system!

## Editor's Note.

This is the first time I had seen this scheme. I felt it might be easier if after the first move to dot or dash you always did the same moves for dot 'up/down' and dashes 'right'. Figure 1b shows this scheme.

**'The IRLP For Kids Net'**  
**...a great starting point for young people**  
*For details see Club News on page 23*

Christine Taylor VK5CTY  
vk%cty@vk5ty or  
geencee@oicknowl.com.au

## Plan ahead for an exciting year

### Gosford Field Day

Did you stop to speak to Dot, VK2DB? I hope so. I hope she told you all about the ALARAMEET 2002 in Murray Bridge at the beginning of October. We do want some new faces as well as the ones we already know. It is such a great opportunity to renew friendships and to make new ones.

Ladies, you can participate, even if you don't hold a licence yourself. ALARA was founded by a group of YLs who wanted "something of their own" at the Hamfests that they went to with their OMs. Some of the foundation members did hold licences but some did not – and some have never been interested in taking up a licence yet have remained faithful members of ALARA.

Please come and have fun. We do not have serious discussion sessions, we just enjoy being together and doing things together.

### Some of our interests outside amateur radio

You have heard of Marilyn's exploit with her stamps, but did you know that we have quite a number of painters in our midst. I have a lovely watercolour done by Pat VK4PT and another one done by Meg VK5YG, who recently won a prize from the Burnside Painting Group. Mary VK5AMD and Sally VK4SHE are oil painters. You have seen some of Sally's cartoons in this column over the years.

Do you remember the poems of Joy VK2EBX? She won a number of prizes for those. Deb VK5JD has won several awards for her poetry in recent years, too. In the UK Jasmin G4KFP has a novel in the pipeline and has had several short stories published.

If you listen on a Monday night (at 1000Z in Daylight Summer Time) and 1030Z Winter Time) you will hear us

discussing gardening in all its aspects. Many of us preserve fruit for the winter or make jam or pickles, sometimes exchanging recipes. It is interesting to hear how the place where you live affects what grows in your garden and when it is ripe.

We have a number of very skilled craft workers. We were all amazed and impressed by the patchwork Val VK4VR brought to the Perth ALARAMEET, and by the lovely drawings of wildflowers Ann VK4ANN had done on her way to the MEET. Maria is a member of the Embroiderer's Guild and had tried her hand at many different techniques of embroidering, as has Marjorie VK2AMJ. Shirley VK5JST teaches bobbin lace and has won many prizes for her work. Mary Rodgers is also a bobbin lace maker but has shown us several others items she has made. Tina VK5TMC works in leather, is an expert cross-stitcher and makes all sorts of interesting items out of beads. My apologies to those I have not mentioned.

Yes we have many skills and many interests. It is not hard to find someone with whom you have much in common.

### USA County Hunters Award to June VK4SJ

If you want to know about DXing, ask June. She has always been interested in this aspect of amateur radio. This award has recently rewarded her hard work. June is the only Oceania YL to hold this award, and only the fifth DX YL to earn it. Well done June! It takes an enormous amount of time and dedication to "catch" all the counties.

June can be heard regularly on the 222 Net on Monday afternoon (call in on 14.222 from 0530Z). She is the regular Control for the Net and has been for most of the time since Dave ZL1AMD moved home.

### The International YL Meet In Palermo

To cater for the many visitors to the area there are a number of tours involved in the planning for this event, including a 4 day tour of Sicily before the MEET starts and other shorter tours covering through to the Wednesday after the actual official gathering. It all sounds positively marvellous. If you are interested in the details or would like to register read page 10 in the ALARA Newsletter or go to the website <http://www.qsl.net/yl2002>

### Two interesting contests coming up

The CLARA and Family HF Contest will be held from 1700 UTC 19<sup>th</sup> March 2002 to 1700 UTC March 20<sup>th</sup> 2002

The contest is open to all amateurs, is HF only but you may use CW and/or phone. The idea is to work as many CLARA members or YL non-members with multipliers (up to 14 are possible) for each Canadian call area and extra points for contacting family amateur stations.

It sounds like fun. The full rules are in the ALARA Newsletter.

The Thelma Souper Memorial Contest will be held on the 6<sup>th</sup> and 7<sup>th</sup> April 2002 from 0700 UTC to 1000 UTC on the Saturday and Sunday evenings. All contacts are on 80 Metres; both phone and CW may be used.

Any WARO member who has worked at least 10 stations becomes a multiplier. A bonus station, ZL6YL will operate at random times and will act as a multiplier for each night worked.

If the rules sounds complicated it is partly because there are some changes this year, but the complete details are in the ALARA Newsletter.

Why not have a listen and have a go! That is the Australian way, isn't it?

Contacts made in the Thelma Souper Contest can be used towards the WARO Award. Contact WARO for more details.

## Adelaide Hills Amateur Radio Society

The January meeting took the form of a very pleasant barbecue at the home of Brian VK5SV. About 50 members and families and one interstate visitor (Lance VK4EW) were there on what turned out to be one of the few hot nights VK5 has had this summer.

Much good fellowship was enjoyed and many interesting conversations were heard.

The evening was concluded by a film show of a series of shorts so there was something for everyone. Altogether a very pleasant way to start the year.

The AGM will be held at the start of the February meeting and will be followed by a speaker. Everyone is welcome to come along on the third Thursday of each month to the Blackwood High School from 7.30. The topics and format of the meetings vary

but are always interesting and well attended.

Interstate and overseas visitors contact either Geoff VK5TY or Alby VK5TAW QTHR for further information.

You have two to choose from, for the AHARS column one has some of the ladies in it, the other has a group of OMs with the V4 second from the right.

73, Christine

## Midland Amateur Radio Group

**The Midland Amateur Radio Group is holding its annual Radio Convention on the 28th April 2002 at a new and brighter location, the WEEROONA Secondary College Hall on the Midland Highway (road to Echuca/Shepparton) Bendigo. Approx 3.4 km from the fountain.**

The usual displays and sale of new and second hand equipment will be there to suit any budget. Food and drinks will be available during the day at the tuck shop. We will be opening the doors at 10:00am until 3:00pm and the door prizes will be draw at approx 1:00 pm.

So please make a day of it and come

and catch up with old friends and put a face to that new contact. You can also take in the tourist sites of this wonderful city. The Midland Amateur Radio Club is at present working on a number of projects for the local area. These are an ATV repeater to service the local district and a proposed 2 m FM repeater to go

into the Echuca area to fill in a bit of a hole in coverage along the Murray River so your attendance at our convention will greatly assist us in these endeavours.

Secretary, Mark Harris VK3EME, P/H (03) 54487055, Fax (03) 54405796, mharris@impulse.net.au

## Bass Amateur Radio IRLP Group

**Calling all young people...**

**Do you have your Amateur licence?  
Are you interested in joining the  
Amateur Radio family?  
Here is the opportunity for you to  
be more involved:**

Every Saturday from 12 noon our group will link up on Reflector 2 and join in with 'The IRLP for Kids Net' from

America. The net is run by young operators, and goes for approximately one hour. Kids can hear and talk to each other around the world. VK3JBO Graham and VK3JED Tony will open the link up. 'The IRLP for Kids Net' can be heard via the VK3RPU Repeater.

So, senior amateurs, if you're trying

to get young people interested in the hobby, here is a great starting point.

For more information contact Graham VK3JBO on 5982 0315 or call him on VK3RPU. this is an Amateur Radio Education Initiative. It's a step in the right direction!

### ALARA continued

## A new award – the 33 Award has opened.

In honour of YLRL founder, Ethel Smith K4LMB a certificate will be awarded to any amateur who works 33 YL amateurs on any authorised frequency (excluding nets and repeaters), starting from Feb 13th 2002, Ethel's birthday.

Start keeping a special log and look for more information next month.

## ALARAMEET 2002 in Murray Bridge

Keep the date free in your diaries and send in your registration. The details of all planned tours and gatherings are all listed in the January Newsletter and on the website

Why not make your bookings now and send your registration to Jean VK5TSX. We are looking forward to seeing you all there.

## Nominations for the AGM in May

If you are interested in offering your services to ALARA in any capacity, please contact our Secretary, Margaret VK4AOE at evron@bigpond.com.au or on packet at VK4AOE@VK4YH. We can always use new blood and you can be sure it will not be an onerous task although it will be interesting.

# Silent Key

## Kenneth Neal Greenhalgh VK2KG

**Born Parkes 27/02/09. Died Sydney 14/1/02, aged 92**

Ken was one of four children, all lived into their 90s. His father was a member on the NSW Police and the family moved around NSW as he was growing up.

By the time he had finished school he was living in Newcastle. He had developed a healthy interest in radio and spent his spare time constructing the current version of crystal and, as the budget allowed, tube receivers.

The latter required batteries. He became proficient at scrounging "worn out" cells and revitalizing them for the current experiment. Suitable glass jars and a supply of Sal Ammoniac was vital. He eventually obtained a battery eliminator but with no power on the house, had to rely on an obliging neighbor and a long power lead.

With limited amplification available, low loss designs were important. His pride and joy was a receiver that used a sheet of glass as a baseboard. He made the drill to allow the necessary holes to be drilled in the glass.

By then, Ken had also developed an interest in birds and was an avid egg collector. He retained the ability to identify birds by their call and to describe their appearance to the end of his life.

Ken's first job was as an apprentice fitter and turner with the NSW railway. His career ended on completion of his apprenticeship, it was depression time and there was no permanent work available.

He moved in with relatives at Rooty Hill and continued with radio as a hobby.

Brother Jack (VK2ADF) was able to get him a job as engineer at Lapstone Hotel; it is now a RAAF base. His amateur gear had to be put away for the next two years but while there he met Mary Speirs and married her in 1933.

He had already obtained his Operators Limited Certificate of Proficiency in Radiotelephony in 1932.

Ken became the first engineer of 2KO not long after the station was licensed

in 1931 by (now) Sir Allan Fairhall (VK2KB). Initially the studios and transmitter were located in New Lampton and the original transmitter was rated at 100 watt.

Over the next few years he moved the transmitter site to Sandgate where a "T" antenna was installed and the transmitter power was boosted to 500 W. The transmitter used water cooled tubes and motor generator set was used for some of the supplies. Much of the installation was constructed by station staff.

One engineer was surprised to find fire flies in the grass one evening. On closer inspection he realized the flashes were small arcs and that the antenna had fallen down. The transmitter was obviously very tolerant and vswr detectors were still to be invented.

Transmission ran for less than 24 hrs per day, Ken cycled to and from Mayfield daily and developed a good relationship with the fishermen selling Hunter River prawns in the area.

He then moved the studios to the Civic Center area of Newcastle. In keeping with the philosophy to use the latest technology, it was decided to upgrade the studio equipment to use indirectly heated tubes. As usual, the station staff built the gear and it was decided to install it after the station closed down one evening. The cutover was finished not long before the station was due back on the air. They were horrified to find that the program was full of hum and the original equipment had to be rushed back into service. There were things to be learned about keeping signal and heater currents separate and if necessary, hum bucking could be used.

By the late 1930s, the station had outgrown the Civic studio site and was relocated to the top floors of the new CML building in Hunter Street.

Again, all studio and control room equipment was built where possible. Ken was convinced that studded faders would offer high reliability and as they

were expensive, designed and built the faders to go into the new mixing consoles.

The transmitter site was also upgraded. A new transmitter building was erected to hold the brand new AWA 500 W transmitter, the "T" antenna was replaced with a 1/4 wavelength vertical and a coaxial cable was installed to link the two.

AWA were commissioned to do a field strength survey and much publicity was obtained promoting the stations technical performance.

The program link from the studios was however still by overhead telephone lines. They became noisy regularly due to poor contact in the twisted joints used when a repair was necessary. The "do it yourself" solution was to get a short circuit on the far end of the line and to discharge an 8uf capacitor, charged to 300v on the line. It effectively welded any troublesome joints. There were no reports of shocked lines men.

The station relied on 78 rpm records for music, the steel pick up stylus had to be changed for every disk played. In an effort to improve quality and the choice of music, the station purchased a library of "hill and dale" recordings which required pick up heads that responded to vertical rather than horizontal movement. By adjusting the damping in the heads, it was possible to optimize the response and the station used the improved performance in heavy promotion.

Ken obtained his First Class Commercial Operators Certificate of Proficiency in 1944 and was regarded as having a good fist at 60wpm.

The Second World War produced a number of changes to 2KO. The most dramatic was the installation of a large axe at the transmitter site with instructions that if the Japanese invaded don't worry about tubes, destroy the transformers and chokes before escaping.

Ken put his mechanical training to

good use to design and built a coil winder able to be used to build layer wound transformers. During WW2 he and his wife produced many of the hearing aid transformers required in Australia

2KO was still running for less than 24 hrs a day. Transmitters were still temperamental devices that could not be run unattended. The current ABCB rules required that all meters were read and logged each hour. The station technical staff, including Ken worked 24 hr shifts and slept at the site.

Apart from the log keeping duties, all technical staff continued working on current projects. This could include fabricating metal chassis and panels, painting as necessary, designing, building and testing the final product. Staff included Jim Cowan, VK2ZC, Harold Whyte VK2AHA and Dave Davies. CQ and QST were required reading.

As was common in those days, there was an emergency studio was on site. On more than one occasion the transmitter tech had the honor of welcoming listeners to the station and playing records until the morning announcer arrived at the studios.

An AWA 2 kW transmitter had been installed by this time. The transmitter frequency was routinely checked from the receiving station at Middle Head. Ken received a call one evening to say that the measuring station thought they

had a problem with measuring system calibration. The normal procedure, after doing the internal calibration was to check 2KO's freq. if it was spot on, the measuring receiver calibration was regarded as being confirmed. Apparently the crystal normally used to air was very stable.

Unfortunately, it had been destroyed some weeks before and the spare crystal had been put into use. Since then, Middle Head had been looking for a problem in their gear that didn't exist.

2KO acquired one of the first wire recorders in use in the industry though portable did mean that two people could lift it. They also obtained the first cartridge machine and put it into use for commercial replay. At that time commercials were being cut to acetate disks and the control room operator had 6 turntables for commercials. The advantages offered by the cart machine were obvious.

In 1961 Ken left 2KO to become the first Chief Engineer of NBN. He had obtained his TVOCP (#18) in the first exam held in January 1957 and was responsible for the design and installation of the studio and transmitter site on Mount Sugarloaf.

The studio relied on valve equipment and transmission was in the morning and afternoon with a break in between. It was necessary to warm up the equipment for at least half an hour before

going to air, stability was a problem. So were mains transformers designed for 60hz operation.

NBN's commercial rates were similar to those of the local radio stations. The volume of commercials rose rapidly to the legal limit and confirmed that the station design and staff were well equipped to cope.

Following a change in the ownership of NBN, Ken returned to 2KO. 2UE was now part of the group and he became responsible for the design and installation of new 2UE studios, located at North Sydney. The studios were to be the first "all solid state" installation in Australia and were the base for the successful operation of 2UE for many years.

Ken retired from the group in 1969 with the intention to travel and of spending more time with ham radio

Notwithstanding failing sight, he designed and built a number of SSB transceivers. He was not able to complete a gem facetter

Ken was an Associate, Member and Fellow of the IRE/IREE and served as Chairman of the Newcastle division for a number of years. He was a member of the WIA

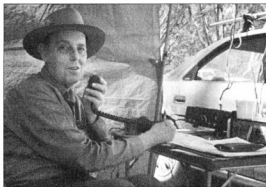
Ken's wife died in 1974. He is survived by 2 children, 5 grand children and 1 great grandchild.

**Athol Greenhalgh VK2BCJ**

**ar**

## WICEN helps the community

Some aspects of the Red Cross Canoe Marathon December 2001 on the River Murray on the NSW Victorian border. WICEN provided communications



Gil Sones VK3AUJ



Joan McDonnell (YL of VK3UCM)

# Technical Abstracts

Gil Sones VK3AUI

30 Moore Street, Box Hill South, Vic 3128

## Finding a break in multicore cable

A useful tip for finding a break in multicore cable appeared in the Hints and Kinks column of Bob Schetgen KU7G in QST November 2001. The tip came from Bert Kelley AA4FB who used a capacitance meter to find the location of a broken core in a multicore cable.

Capacitance meters are readily available and are often included as one of the functions on digital multimeters. Alternatively a capacitance bridge can be built to do a particular job fairly simply.

The broken conductor is first determined with an Ohmmeter. The digital multimeter may even offer this as an audible continuity test function.

The test set up for locating a cable break is shown in Fig 1. Breaks often occur near the ends of cables due to frequent flexing of the cable. The capacity between the ends of the broken conductor and the other conductors will

vary between the ends of the cable. The capacitance at the broken end will be lower. The distance to the break can be estimated by comparing the capacitance from each end to adjacent conductors with the capacitance between unbroken conductors. You can then estimate the location of the break.

If the cable is unshielded then simply

measure capacitance between one conductor and all the others and then between the ends of the broken conductor and all the others. This may be needed for some unshielded cables.

Watch out for variable capacity caused by moving leads around. One solution may be to temporarily tape the test leads in position so they do not move about.

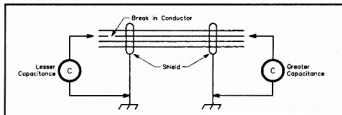


Fig 1. Test Set Up for determining position of cable break in multicore cable.

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## Soldering Litz wire

Litz wire exhibits better Q in LF tuned circuits than solid wire of equivalent cross section. It consists of hundreds of individual lacquered strands. If the lacquer is the older non fluxing type soldering is difficult. It is difficult to remove the lacquer without damaging the fine strands.

The LF column of Dave Pick G3YXM in the November 2001 edition of Rad Com contained a method of removing the lacquer to allow the litz wire to be soldered. The method came from Mal G3KEV.

The idea is to dip the end of the Litz wire in paint stripper for a few minutes to soften and dissolve the enamel insulation. Then use a toothbrush to remove the softened and dissolved enamel insulation. The final thing is to dip the end in white spirit and wipe dry.

You could try lighter fluid or shellite. The bare copper end is then soldered.

There are a number of volatile and potentially dangerous solvents and inflammable liquids used so you should take appropriate precautions. Work in a well ventilated area and avoid inhaling the fumes. Also keep away from sources of ignition as the flash points may be low. With care and appropriate precautions you should be able to solder the Litz wire.

## Battery saver timer

Many homebrew projects and helpful gadgets use a 9 Volt battery. They are only used for a short time. This results in them often being left on. The battery is then flat the next time you want to use them.

A handy auto switch off circuit appeared in the Hints and Kinks column of Bob Schetgen KU7G in QST November 2001. The circuit came from Lyle Koehler K0LR. The circuit gives two or three minutes of operation and then switches off. The only drain is the standing current drain of the CMOS IC.

The circuit is shown in Fig 2. The switch is a pushbutton which when pushed discharges the capacitor C1 which is a tantalum electrolytic. The circuit then turns on the transistor switch Q1 for 2 to 3 minutes which is set by the value of C1 and R1. The IC is a CD4093 type which contains four schmitt trigger NAND gates. The switching transistor is a PNP switching type and any near equivalent will do. All the parts were available from Radio Shack in the USA. Radio Shack is known as Tandy in Australia. Most local suppliers would have the parts.

The circuit could be built on a piece of strip board or you could build it dead bug style on a scrap of PCB laminate.

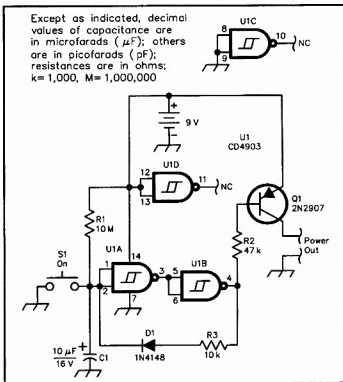


Fig 2 K0LR's Battery Saver Circuit for low power accessories.

## Depth stops for drilling

Depth stops for use when drilling were discussed in the In Practice column of Ian White G3SEK in Rad Com August 2001. When drilling holes it is often desirable to control the depth that the hole is drilled. There are many ways of doing this.

The simplest is to use a drill on a stand which has a stop which can be preset. This will result in the most repeatable result and will also ensure optimum alignment of the drill. Drill stands are readily available and usable ones can be obtained at reasonable prices from most hardware suppliers.

Another way is to use the collars fitted with grub screws which can be salvaged from electrical fittings. You can find

these in old terminal blocks, plugs, sockets, switches and other electrical items. Simply fit these to the drill bit and you have a depth stop. However watch out as the surface you are drilling may be marked.

For less accuracy and repeatability you can mark the drill bit using a felt tip pen and then stop the drill at the appropriate time.

Another way is to attach a flag of masking tape to the drill bit and stop when you see the chippings being swept away. This last tip was reported as coming from the UK DIY newsgroup.

There are many tips and interesting items in Ian Whites column and on his website. His website is [www.iftech.com/g3sek](http://www.iftech.com/g3sek).

## Technical Abstracts

### Monel wire for corrosion free antenna

An interesting material for making an antenna which is corrosion free was discussed in the Hints and Kinks column of Bob Schetgen KU7G in QST September 2001. The idea came from Charles L Wood W2VMX.

Charles W2VMX has lived in areas suffering from salt spray and heavy industrial pollution for many years. Antennas made of copper wire suffer from corrosion and deteriorate. He found that Monel wire was available from fishing tackle distributors. It is easier to handle than stainless steel and is kink resistant. It is sold in the USA as trolling wire. Charles found that it could be soldered using rosin core tin/lead solder using a 100/150 Watt soldering iron.

The wire is sold in a variety of gauges

identified as from 15 to 200 pounds. He used 25 pound wire which is 0.018 inches diameter and 60 pound wire which is 0.028 inches diameter. Some care should be taken when wrapping or bending it as it has more spring than copper wire. It can also puncture fingers easily so proceed with care. Use pliers to bend and form it rather than bare hands.

Monel has more resistive loss than copper. Zack Lau W1VT ARRL Lab engineer calculated the loss of a 20 metre

dipole at 30 feet as 0.6 dB greater for a dipole made of 0.028 inch dia Monel than a dipole made from #12 Copper. Still this loss may be quite acceptable in an area where corrosion can rapidly reduce the efficiency of the antenna made of copper.

The Monel wire is probably available locally through fishing tackle suppliers. Some research may be in order if you suffer from corrosion. The internet would probably give some leads if your local suppliers can't help you.

## URUNGA FIELD DAY

Easter Saturday & Sunday, March 30 & 31, 2002  
Senior Citizens Hall, Bowra St

quizzes

lucky door prizes

novelties

Trade tables

Tea and Coffee available

Fox Hunts and raffles



The second Urungra Radio Convention 1950.

### PROGRAM

#### Saturday 30<sup>th</sup> March

10-11 am 80 m Mobile Foxhunt

11.30-Noon 2m Pedestrian

Noon - 1.30pm Lunch

1.00-1.30 80 m Novice

2-3 pm 2 m Mobile multi Tx

3.30-4 pm Talk-in m 146.500

6.00 pm Meal Booking required

#### Sunday 31<sup>st</sup> March Easter

9-9.30am Scramble

10-10.30 am 80 m Novice 40 m Fun type event

11-Noon 2 m mobile multi Tx

Noon - 1 pm Lunch

1.30-2 pm 2m Pedestrian

2.30-3 pm Talk-In 2m fun event

4pm Presentations

More information from:

Brian VK2ZCQ 02 6655 1115,

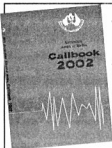
Arnold VK2ADA

### Registration

One day OM \$10, YL \$6, Family \$16

Two Day OM \$12, YL \$8, Family \$20



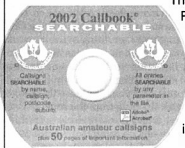


# WIA Callbook

This year's callbook is a shortened version containing only the VK call signs and little peripheral information. Its price reflects its shortened format by being considerably less at \$15.00 (plus postage and handling).

## Callbook on CD Rom

This year WIA is offering the 2002 Callbook as an Acrobat file on a CD Rom, also for \$15.00 (plus postage and handling)



The advantages of CD Rom is that the files are searchable by callsign address, surname, postcode or even suburb.

The attached search program, Acrobat Reader, is the world's most popular reader of files and is completely cross-platform compatible, it works on all computers.

We have included readable,searchable and printable files of the 2001 information regarding

Examiners

WIA Divisional Information

Wicen

ACA information

Operating information

Radio and TV Broadcast Stations

Internet Addresses of Interest

Affiliated Clubs

Travellers nets

Operating —special interest groups

Repeaters and Beacons

Useful forms.

**Order through your local Division  
contact details on inside back cover**

**Ask about the price of the Book and the CD if bought together.**



EASTERN AND MOUNTAIN DISTRICT RADIO CLUB INC.

## WHITE ELEPHANT SALE

SUNDAY 24 MARCH 2002

Selling space: \$15.00 per table  
(inc. entry for one person). For Bookings call  
Peter VK3DI on 9720 8874 or email  
petermac@alphalink.com.au by 10 March

**www.emdrc.com.au**

Great Ryrie Primary School

Great Ryrie Street Heathmont

Doors open at 10:30 AM

Entry \$5.00 per head

## VK1 Notes

### Forward Bias

Peter Kloppenburg VK1CPH

The guest speaker at the January General Meeting was D. Robert Woodman (VK1EY), a.k.a. Bob. His subject for the evening was his working life with Telecom. Although not directly associated with Amateur Radio, Telecom has always been in the business of long distance voice communications, using wires, coaxial cables, amplifiers, microphones, and headphones. All these things are used by Radio Amateurs but on a different scale. It is therefore not surprising that Bob felt at home in both environments.

His talk was peppered with jokes and anecdotes, which he had collected over the years. With great foresight, he had taken photos of every aspect of the work that he was associated with during the years. While he was talking about various subjects, he handed out manilla folders containing photos he took while on the job. This was very impressive

because the audience that evening could hear, and see, what life was like at Telecom.

One very interesting subject he spoke about was the incidence of lightning strikes on poles, buildings, and buried cables of all kinds. As Telecom has put a lot of copper in the ground all over Australia, it is not surprising that their staff has gained much experience in finding the location of a strike and, subsequently, resplicing the melted cable(s).

With the use of drawings on the whiteboard, Bob showed how to provide a good earth for a telephone exchange, a pole, or a buried cable. He even told us the value of the maximum earth resistance that was acceptable (3 ohms).

He said that any complaints that Telecom received from subscribers were acted upon straight away. Bob remembers the farmer who came in to

say that while on the phone to one of his neighbours he received an electric shock through the handset that bruised his ear and made him deaf on one side. He also said that the telephone did not work anymore after that. When Bob went to make an inspection the following day, he found that everything in the junction box on the outside pole was melted due to a lightning strike. The conclusion from all this: When there is thunder and lightning near you, don't use the phone and pull the plug from the socket.

Don't forget folks, there is a Trash & Treasure sale on Sunday, 28 April 2002 in the compound of the Parks & Garden Depot, Longerenong Street, Farrer. Sellers at 11 a.m., buyers at 12 midday.

The next General Meeting will be held on Monday, March 25, 2002. 7.30 for 8.00 pm at the Scout Hall, Longerenong St, Farrer. Cheers.

## VK4 Notes

### A Long Way in VK4

On the morning of 8-1-2002 a new VK4 record on 24.0481 Gigahertz was established between Kings Beach Caloundra and Wellington Point Brisbane. The previous record was 30km; the new record is 73.8 km.

Location 1: Wellington Point, VK3ZQB + VK4ZHL (all portable).

Location 2: Caloundra, VK3XPD + VK5DK (all portable).

Signal strengths up to 5x5 after initial optimisation with typical daytime QSB. The visiting team is continuing with local propagation experiments. The challenges of building and operating microwave amateur radio equipment are wonderfully rewarding in many ways!

As well on 12-1-2002 UTC a new VK4 and VK2 record was made on 10 GHz, between Byron Bay, NSW and Harvey Bay, QLD. Previous record was 327.8 km; the new record is 380.7 km.

On the same night a new VK4 and VK2 record was established on 5.7 GHz, between Byron Bay and Harvey Bay. Previous record was 246 km; the new record is now 380.7 km.

This was followed on the same night with a new VK4 and VK2 record on 3.4 GHz, between once again between Byron Bay and Harvey Bay. Previous record was 246.5 km and new record is 380.7 km.

The Amateurs involved in this joint DX operation were: -  
VK3ZQB Russell  
VK3XPD Alan  
VK5DK Colin  
VK4ZHL Errol

A record on 10 GHz was broken on 12-1-2002 UTC between Port Macquarie and Byron Bay, but this record was extended later that night.

Amateurs involved were VK3ZQB and VK4ZHL and VK2EI Neil in NSW.

### Microwavers

Quite apart from the current interest in record breaking contacts on Microwave Bands. Quite a few Sunshine Coast Amateurs, together with a rapidly growing number of Brisbane Amateurs are pushing ahead with Networking Computers on 2.4 GHz. If you access the QDG's Web Site and go to the relevant Brismesh Link you'll REALLY be surprised at the extent of the interest in this new frontier of High-speed, Microwave Computer Networking.

### Fire Away

Phil VK4HUM, who only very recently obtained his amateur radio licence, had a very quick introduction to emergency operating! Phil, visiting family in Mittagong and Sydney, linked up with some of the members of Fisher's Ghost Amateur Radio Club whilst getting into the thick of the bushfire action.

Doing a stint on radio duty at Picton Fire HQ on a Friday night, he said this is the first time ever that amateurs and civilians had been called in on a fire emergency.

Phil gave a talk at the February TARC Management Meeting on emergency communications relating to fires, as although the Townsville WICEN group have had experience running communications for cyclones, floods and searches, they have little experience with fires!

## Media Watch and PR Opportunities

Ron VK4EV callback operator reports on record 59 callbacks on the VK4RBN repeater for QNEWS recently.

We'd love to hear from Bayside as to whether or not they are still handling callbacks and news on 70cm in Brisbane Sundays and on their 2-metre repeater on Monday nights.

Bruce ZS5BR of the Hiway Amateur Radio Club, City of Durban in South Africa run QNEWS every Saturday Night at 1930 hrs SAST on their local repeater 145.600 MHz which covers all of the City of Durban and Hiway areas. Bruce, we welcome you and our ZS friends to QNEWS, and hope to get regular feedback from you!

Does your repeater air QNEWS Ham News? If your local repeater makes use of all 3 segments or parts 1 and 3 only, of the WIAQ's weekly Amateur Radio news broadcast, QNEWS, please let us know.

We'd appreciate it if repeater managers would send the call sign, frequency, location, and sponsoring club/organisation of the repeater as well as the time and day QNEWS is aired to Graham VK4BB, gnews@wia.org.au each week. Or by packet to VK4BB @ VK4WIE.#BNE.QLD.AUS.OC

Another new QNEWS rebroadcaster joins the ranks, and again from ZS land. Reece reece@kingsley.co.za sent us this report. "Greetings from Cape Town, on behalf of the Oakdale Amateur Radio Club, with callsign ZS1OAK, situated in the Northern Suburbs of Cape Town. We are re-transmitting your QNEWS bulletins on our Tuesday evening Oakdale Natter-net at about 18.30h UTC, to a group of about 20 regular listeners. We transmit on the main Cape Town 145.750 MHz repeater, and your bulletin is well sent by ZR1TRD Andre.

Council News by President Ewan VK4ERM

On Tuesday 15Jan02 David VK4OF and Ewan VK4ERM had a lengthy discussion with a town-planning

consultant working for Pine Rivers Shire Council on the drafting of the new town planning acts. It is hoped the outcomes will be clear on the requirements for towers and masts and differentiate between those structures used by the Amateur Service and those of a commercial nature. David and Ewan will continue to have input to the PRSC document and expect to have the opportunity to review the appropriate sections of the drafts. If the documents are progressed expediently then they may become the model for other councils.

## The Volunteer Spirit

VK4OF David as VK4 Federal Councillor notes that former VK1 Federal Councillor and member of the ACA Liaison Committee Glenn Dunstan VK1XX/VK4 and P2 has been a resident of VK4 for some time, and is now a member of this Division being based in Cairns. He has kindly offered his services as a Councillor. He is unavailable for any of the normal hack-work which generally occurs in Brisbane, but would welcome the opportunity to continue to serve the WIA and his newly adopted division. Thanks and welcome Glenn.

# VK7 Notes

## QRM

February is annual meeting time for our three branches around Tasmania ( You will be aware that Tasmania has three WIA branches rather than affiliated Clubs). As this goes to the Editor two have so far had their meetings and I have pleasure in listing the main Executive officers in them

### Southern Branch (Hobart Area)

President: Justin Miles-Clark VK7TW  
Vice President: Scott Evans VK7HSE  
Hon Secretary: Dale Barnes VK7DG  
Asst. Secretary: Kevin Burgess VK7BK  
Hon. Treasurer: Richard Rogers VK7RO

### North-West Branch (Devonport/Burnie Area)

President: Bob Cropper VK7BY  
Vice President: Max Freeman VK7MD

Hon. Secretary: Ron Churcher VK7RN

Hon. Treasurer: John Webster VK7KDR

The Launceston branch Executive will have to wait till next month!

Our Division annual meeting is scheduled for the 23<sup>rd</sup> March at Burnie.

Tasmanian members are very involved with the main Car Rallies The Southern members do the communications for the TARGA TASMANIA Rally in March while the North-West branch will do the same for RALLY TASMANIA on the 15<sup>th</sup>./17<sup>th</sup> February. Both Rallies traverse very difficult country radio-wise and we get quite a kick out of "getting through" when the so-called pros. can't make it.

Marconi Centenary celebrations were held in the south and the northwest on

December 12<sup>th</sup>. The north-west branch flew a kite in co-operation with the Kite Flyers of Tasmania at the site of the first Marconi transmission in the Southern Hemisphere (between Devonport and Queenscliffe) and world-wide contacts were made. Using IRLP node 670 we were in touch with the Newfoundland amateurs and greetings were exchanged between State WIA president Phil Corby and his counterpart in Newfoundland followed by greetings exchange between the Mayor of Devonport (Ald Mary Binks) and the Mayor of St Johns. Good publicity resulted in the local papers.

Cheers for now Ron VK7RN

# VK3 Notes

By Jim Linton VK3PC  
WIA Victoria web site: [www.wiavic.org.au](http://www.wiavic.org.au)  
email: [wiavic@wiavic.org.au](mailto:wiavic@wiavic.org.au)

## Member consultation

The WIA Federal Council is expected to vote soon on the future of the WIA journal *Amateur Radio*. It has been undergoing a review due to a downturn in advertising revenue and a smaller print run due to a lack of growth in WIA membership.

A survey of members through the WIA Victoria website found overwhelming support for the WIA to continue to publish its own magazine, and not to insert it into another publication.

The option of having a bi-monthly printed magazine (6 issues a year) gained "acceptability" support of 62% of the 119 who responded to the survey. There was an underlying sentiment among a small number of respondents that they preferred a monthly magazine, but would accept a bi-monthly publication.

Only 22% believed that the WIA did not need to have its own printed magazine with some of those being critical of *Amateur Radio* magazine's style and content.

On the question of whether AR magazine should be inserted into either *Radiomag* or *Break-In* (NZART), 71%

outrightly rejected both options. An insert in *Radiomag* was supported by 25% of those surveyed, while only 4% nominated *Break-In*. Awareness of *Break-In* through having read a copy of the NZART journal stood at 20%. When asked if they subscribed to *Radiomag* or regularly bought it, 32% said yes.

Publishing AR magazine on the Internet for WIA members as an e-zine saw 49% of respondents in favour and 51% against.

The survey also gave respondents an opportunity to make comments on any question. Some were concerned about the issue of access to the Internet, and therefore the ability for members to obtain *Amateur Radio* if it were only an e-zine. The e-zine question result also reconfirms WIA Victoria's belief that about 50% of today's radio amateurs do not have, or do not readily have access to the Internet.

The result however could be seen as clearly identifying an existing market opportunity to publish AR magazine as an e-zine, albeit as an addition to a printed magazine, with access restricted to members. The survey found that 44% of respondents currently read e-zines.

## New councillors

The WIA Victoria Council is now at full strength following the appointment of three new councillors. They are Murray Price VK3JKZ, Barry Robinson VK3JBR, and Jonas Sadauskas VK3VF.

The trio join councillors Peter Mill VK3APO, John Brown VK3JJB, Barry Wilton VK3XV, Keith Proctor VK3FT and Jim Linton VK3PC.

As announced previously, Barry Wilton VK3XV has retired as Treasurer. His replacement is Jim Baxter VK3DBQ. He has been learning the requirements of the job since late last year and was formally appointed last month.

Gary Furr VK3KKJ had resigned from council effectively from the end of December 2001, but will continue in his role as Internet Project officer. Thank you Gary for your contribution as a councillor and the website has never looked so good.

## IRLP providers meeting

WIA Victoria convened the first ever meeting of Internet Repeater Linking Protocol (IRLP) providers in VK3 to discuss issues surrounding the use of the Internet to link repeaters, including with those overseas with local repeaters.

WIA Victoria has been supporting the existing groups in their early stages of introducing IRLP through technical liaison, licensing and advice. The meeting on 19 February brought them together for discussion and mutual benefit.

Attending were representatives of IRLP nodes in Mildura, Ballarat, Geelong, Mornington Peninsula, and Melbourne. Three other groups that have advanced plans for setting up IRLP nodes also attended.

Within a few months it is expected that new IRLP nodes linked to 70cm repeaters will be servicing Melbourne's south, south-east and east. The first IRLP node, a joint venture between the Moorabbin and District Radio Club and the Geelong Amateur Radio Group, has been operating through the two metre repeater VK3RGL at Geelong. It will switch soon to VK3RGL 70cm.

The BASS IRLP Group has been using the Arthur's Seat 70cm repeater VK3RPU. More recently the North East Radio Group has been operating its node in Melbourne's north-east via the club's 70cm repeater VK3RMH.

The meeting heard details of each of the operating systems, their plans for the future, and the proposals for new IRLP nodes.

Those gathered agreed that an education campaign on the use of IRLP was needed, and as a starting point the WIA Victoria Voice Repeater Guidelines have now been updated to include guidelines for the use of IRLP. The revised guidelines are available on the WIA Victoria website.

In another initiative arising out of a very positive meeting is the setting up of a VK3 email list for IRLP providers to encourage the sharing of information, liaison with WIA Victoria, and coordination.

## Silent Keys

### The WIA regrets to announce the recent passing of:-

G W Lanyon VK2AGL  
P W Campbell VK2AXJ  
G (West) West VK2BT  
M W (Martin) Saunders VK3AMV  
A C Corrick VK3CBG  
S H Williams VK3DSW  
W G H Daniel VK3NX  
E G (Edward) Hafner VK4AEW  
S O Martin VK4MUQ  
K J (Kevin) Horan VK5IT  
Jp (Peter) Rodgers VK5KJT  
C H (Clarrie) Castle VK5KLL  
(Leith) VK5LG  
K J Atkins VK5MW  
F (Fred) Reid VK7SD

# VK2 Notes

By Pat Leeper VK2JPA

A last reminder that the Annual General Meeting of the VK2 Division will take place on 13<sup>th</sup> April at Amateur Radio House Wigram Street Parramatta, commencing at 11 am.

The Trash and Treasure on the last Sunday in January was well attended and many amateurs renewed friendships. The Home Brew Group met after the Trash and Treasure with projects to be examined and many topics to discuss.

At the beginning of the Group's meeting, Barry White VK2AAB, the VK2 Federal Councillor, made an award to Guy Fletcher VK2KU for his antenna article in Amateur Radio (picture). It is good to see a local amateur making the grade in technical writing for AR. Let's hope it stirs others to write articles for our magazine.

Next month we hope to write about the Wyong Field Day and those who attended it. Perhaps we saw you there?

That's all for this month.



ar

## Silent Key

**Edward Charles, "Eddie" Hornbuckle, VK3BBP**

**22/08/1922 – 30/1/2002**

Eddie past away on the 30th January 2002 missed very much by his family and many, many friends.

He is remembered for his many qualities, love for his family and friends, integrity, ingenuity, his interest in diverse fields of technology, people and his ability to realise ideas into reality in his own, unique way.

You only have to look at his homebrew antenna mast, which is an absolute masterpiece of Australian bush inventiveness, an awe-inspiring 50 ft high. Only a small electric winch is used to raise and lower the mast. The fulcrum being about 8 ft above ground, the mast is counter balanced by 1

Deutz diesel 100 HP flywheel, 1 Garden truck engine flywheel and various blocks of concrete picked up successively by a heavy chain when the tower moves majestically skywards. It was Eddie's great pride and liked to show it off to visiting amateurs, possibly also inspiring a certain amount of fear as well as the movement tended to be a bit wobbly on the way up. However his engineering insight showed up here because firstly, the amount of balance weight picked up followed closely the first quarter of the cosine function so that there was almost perfect balance all the way when the mast was erected.

Secondly, the point where the line was attached to pull the mast down is about 2/3rds up the mast thus no great leverage was required.

I will be remember him foremost for his optimism and positive attitude, 25 years ago we sat for the exams in Sale, Victoria and the CW was really a problem for him, but he stuck to it and after his seventh try obtained his full licence!

This attitude showed up very much in his last years when he suffered much due to his illnesses, but he found great strength in the loving care of his beloved wife Elaine.

# More Operating Hints

## from Peter Whellum VK5ZPG

**Carrying on from last month, here is an account of Peter's experiences using FO-29 and AO-10:**

"FO-29 is an interesting bird as it is inverting. In simple terms, if you transmit on the uplink in LSB, you will appear in the downlink as USB - the preferred method! However, inverting voice comms birds like FO-29 also have 'opposite tracking frequencies'. By that I mean that if you transmitted in at the low end of the uplink, say at the pass band 2m frequency of 145.900 MHz, LSB, you will be received at the high end of the downlink (in this case, 435.900 MHz, USB) - inverting in the full sense of the word! However, operating through these birds is relatively simple if you are lucky enough to have a 'satellite special' transceiver, e.g. the Yaesu FT-736R. Study the user manual, particularly those parts relevant to satellite operations, and in particular, inverting types! Let's look at a typical FO-29 contact (oh, and when you do make contact, take your time and have a good yarn while you're at it!):

I will assume you have your antennae

all set up and hopefully, computer controlled, otherwise you'll need a couple of extra hands! However, let's assume you do! A few minutes before the bird is due to appear over your radio horizon, set your transmit and receive frequencies for the centre of the transponder's pass band;

- (a) Set your TX frequency to mid passband of about 145.950 MHz - CW initially;
- (b) Set your Rx frequency to mid downlink pass band of about 435.850 MHz - USB

If you are using the FT-736 or similar, you could then switch to 'reverse' tracking, but I personally don't worry about the 'reverse' tracking yet - or at all for these low earth orbit types! Once you have set your transceiver up, **LEAVE YOUR RX FREQUENCY AT THE CENTRE OF THE PASS BAND AND DON'T MOVE IT UNLESS YOU HAVE INTERFERENCE.** If you do switch to reverse tracking, you will end up chasing each other up and down the band - you'll end up in a mess!

As the bird appears over your radio horizon:

1. Have a quick tune across the band, but make sure your FT-736R (or equivalent) is in the Reverse tracking mode - that way you will be tracking opposite in frequency - I hope you understand what I mean there! (You will be able to tune to the centre of the passband, knowing your TX frequency will be similarly tuned.)
2. If you hear no one calling, with your 736R still in the reverse mode, move to the centre of the passband as shown on the receive readout. **THEN SWITCH TO TRANSMIT - CW.** (ie, move the tracking switch to the TX position.)
3. Leave your Rx frequency alone! Key your transmitter with a burst and slowly tune your tx vfo until you hear your own signal coming back at you on your 70 cm receiver - and please, make sure you're wearing your headphones!

4. As you start to hear your own signal, keep tuning until you get a nice zero-beat or close to it, then switch to **LSB.** Start talking and **USE YOUR TX VFO TO RESOLVE YOUR OWN SIGNAL - NOT YOUR RX!**

5. Once you have your own signal resolved nicely (and don't you sound nice through the headphones!), give your normal satellite CQ. Remember, it is full duplex, but pause once in a while to listen in case there is a weak station. If anyone is about and hears you and wants to have a yack, you'll soon hear the familiar heterodyne as the other bloke starts to zero beat his signal onto your frequency - keep talking to help him zero in, otherwise he'll be slightly off frequency, tempting you to use your receiver to tune him in - he'll then start chasing you and away you go again, falling off the edge of the world to the place of dragons!

6. During your QSO, use your transmitter VFO to keep your received signal in the one spot - please don't use your receiver unless you find yourself with some form of interference. You will find, particularly with nearly 'over the top' passes, your fingers are almost constantly retuning your tx VFO - Doppler shift, although relatively small, is enough to quickly spoil your beautifully resolved voice coming back to you through your headphones! The other amateur will be doing the same thing as you - **HOPEFULLY!** If he isn't, then you are in for the ride of your life - you follow him down or up, and he follows you down or up and before long, you both end up visiting the dragons!

7. I have seen it written somewhere that someone suggested the higher frequency in use is the one that is changed, leaving the lower frequency alone. I've never worked anyone who uses that principle, but

### The AMSAT group in Australia

The National Co-ordinator of AMSAT-VK is Graham Ratcliff VK5AGR. No formal application is necessary for membership and no membership fees apply. Graham maintains an email mailing list for breaking news and such things as software releases. Members use the AMSAT-Australia HF net as a forum.

### AMSAT-Australia HF net

The net meets formally on the second Sunday evening of the month. In winter (end of March until the end of October) the net meets on 3.685 MHz at 1000UTC with early check-ins at 0945UTC. In summer (end of October until end of March) the net meets on 7.068 MHz at 0900UTC with early check-ins at 0845UTC. All communication regarding AMSAT-Australia matters can be addressed to: AMSAT-VK, GPO Box 2141, Adelaide, SA. 5001. Graham's email address is: vk5agr@amsat.org

it would work just as well as changing your tx VFO; however, most hams seem to change their tx frequency, regardless of which is higher. It certainly seems the case with RS12/13, RS15 (when it's on), FO-29 and AO-10. The main thing is to maintain at least one link constant; otherwise you will stray where dragons lurk, just waiting for the unwary ham!

8. Oh, forgot to mention polarisation! If you have the ability to switch between LHCP and RHCP, all the better, as it can assist with some of the deep QSB that you'll often experience, and that adds yet another dimension to the fun of working these wonderful birds! (If you haven't, well, it just means you have one free hand to perhaps take notes or fill in the logbook - provided you have an automatic az/el system of course!)

A quick word about the grandmother voice comms satellite of them all, dear old Oscar 10 - after all these years (launched in 1983!), with dead batteries and with, I believe, absolutely no control over her activities), she is a remarkable old lady.

At times the activity on AO-10 is fast and furious, on other occasions you can be talking to yourself, with quite decent return signals for what seems like hours - and quite often it can be in your view for 10 or more hours - and often quite workable for a good proportion of that time!

You need good antennae, good rx preamps (mounted at the mast - I hope! - unless your cable runs are short and you can get away with them in the shack) and a bit of patience - and the ability to switch polarisation of both tx and rx as the old lady seems to like to wobble a

## Zeehan Primary School to talk to ISS Astronauts

Tony Hutchison VK5ZAI, Australian ARISS co-ordinator reports that a contact has been organised for students at the Zeehan Primary School in Tasmania for mid-March, around the time you will be reading this column. This will be the first time that Australian school children will have the opportunity to talk to Astronauts

on board the ISS. The contact will be made live with the aid of Bill, VK7KHZ. Tony also reports that Bordertown Primary School is also on schedule to make a similar contact later in the year. Many thanks to Tony and Bill. I hope to report the success of this event next month.

bit in her space travels! However, 5 x 9 plus signals are a regular event, so are 1 x 1, but thankfully the noise level is sufficiently high you don't bother even trying! Seriously though, it's jolly good fun; think about giving it a go. If you do, and are new to 'the game', similar working 'protocol' to working the LEOs also applies.

1. Listen to the beacon (145.810 MHz) - to give you some idea of Doppler shift and where to start transmitting.
2. She's an inverting bird, so set Rx and TX up for the centre of the band (i.e. uplink on about 435.100 MHz, initially on CW, then to LSB; downlink on about 145.900 - USB);
3. Start transmitting CW - short bursts, listening on 145.900 for your signal; remember, use your tx VFO to 'find' your own signal and then keep using it as Doppler takes hold.
4. Unless you happen to catch AO-10 at perigee, Doppler shift isn't quite as bad as it is for the LEOs. However, it is present and you must remember to change your transmitter vfo frequency to remain on the one transmitting frequency. However, this is where transceivers like the FT-736R make life so much easier! Once you have your tx and rx frequencies resolved, simply

switch to the reverse tracking position (and don't forget to tx in LSB!) and then you are free to tune up and down the band pass of the transponder (145.825 to 145.975 MHz), knowing that your tx and rx frequencies are locked together, but tracking in opposite directions. However, you will need to occasionally switch back to your tx to adjust the tx VFO to remain on frequency - but is certainly less frequent an event than working through the LEOs.

5. I've found that most hams seem to congregate around the middle of the downlink passband of 145.900 and, if the band is inactive, most seem to stay at that frequency. Good manners, however, should come into play and perhaps a suggested move up or down a few kHz would be in order.
6. Deep QSB can be 'nasty' - a bit like dropping off to visit the dragons! A bit of patience will pay off as the deep fades usually also mean a round of good to excellent signals - 5x9 copy, both ways, is often possible, even when the bird is several thousands of kilometres above the earth; a wonderful old grandmother if ever there was one! (And I suspect she suffers from

## KO-25 Efficiency Improves

I have received reports indicating that the download efficiency of KO-25 has improved of late from very low performance to around 50-60%. Let's hope that this is due to some action of the control stations and not just a random event. I'll be keeping an eye on KO-25 this month to see if the situation remains the same or perhaps even improves. With only the occasional meaningless noises from KO-23, the poor efficiency of KO-25 has placed a heavy burden on UO-22, the last of the 9600 baud birds delivering full performance.

## Knighthood for UoSat Pioneer

Martin Sweeting G3YJO has been knighted for his efforts in the field of education using satellite technology. From its humble beginnings at University of Surrey to the present-day "Surrey Satellite Technology" company, the entire technology-transfer program has been inspired by the leadership and vision of Martin Sweeting

## StarShine-3 goes silent

Starshine-3 has been silent since January 9, 2002. The satellite has a very simple command-set. Controllers are able to turn the transmitter on or off and change the interval between packets. With just this limited amount of control, recovery of the satellite looks unlikely.

'selective deafness' on the odd occasion!)).

7. A further word about 'good manners' on AO-10. Because the batteries, for all intents and purposes, simply don't exist, she relies on the sun for her power. If you hear the beacon fm-ing, or hear your return signal start to "fm", then please don't continue to transmit, your signal will quickly become unreadable and there could be others that are trying to use it at very low power settings which don't cause the fm-ing. Another very important point is to never use more power than that which is sufficient to hear your own signal clearly, taking the overall bandpass conditions into

consideration. If we all worked 400 watts PEP into the old dear when she is 'open', we're likely to make her 'pull the plug' on the lot of us. A good cross yagi system, say 10 elements on both 2m and 70 cm, with around 50 to 100 watts should get you well and truly into her passband; if you need much more, give it a rest and try something else, methinks she's trying to tell you it ain't worth trying at that particular time!

8. One final word - you will often find she is in your radio horizon for several hours at a time, giving you plenty of time to try to work through her, so take your time,

listen around the passband and you may well be surprised at what you hear! I can't wait to get on to AO-40! Oh, and as she passes close to perigee, expect all sorts of interference from Asian taxi-drivers, who seem to be using FM gear, apparently on the 2m band - it all makes for good fun though as SSB signals can usually be heard quite clearly through the 'squiggles' of fm stations."

Thanks very much to Peter for his contributions over the last two months. I hope they will inspire some more folks to dust off the gear and get in there and have - not just a QSO - but a good old rag-chew on the birds.

## Exciting Plans on the Table at AMSAT-NA

### The AMSAT-NA Board of Directors has been busy looking at an exciting new proposal for a satellite.

As many of you are aware, AMSAT-NA membership is comprised of people from all walks of life, including those who earn their living designing and building satellites. A company who builds satellites - with AMSAT-NA members as senior officers - approached the Board with a proposal to build a microsatellite in conjunction with AMSAT. This microsatellite, based on a design with several receivers and high power transmitters will enable users to:

- communicate using analog voice through the satellite on several VHF uplink and UHF downlink channels simultaneously. Operation will be similar to AO-27 and UO-14 - but with handheld QRP power!

- communicate using 9600-baud digital store-and-forward data, similar to UO-22 and KO-25
- communicate using APRS 9600-baud packet data, in either a digipeat or store-and-forward mode
- repeat 1200-baud AFSK APRS packet data through the satellite's analog repeater
- experiment with PSK-31 operation (28 MHz up/70-cm down)
- uplink voice or data on 23-cm, 2-meters or 10-meters with a 70-cm downlink
- receive up to 56k-baud digital transmissions using an UHF downlink
- receive spacecraft telemetry and bulletins
- experiment with various, simple, low gain antennas

There is also room on board for one or two secondary payloads. This is quite a lot for a small satellite, but with shrinking electronic components it is possible to get so much more into a small space. The board anticipates that the satellite will be designed, constructed, and undergo all its tests in 2002-2003, and be ready for launch in late 2003. A suitable launch has not yet been defined; however, there are several opportunities that are being investigated. It is important to note that during the development of this bird, the design of the Eagle satellite project will continue. Eagle, being a larger satellite (and to be launched into GTO) will take longer to design and build. Currently, we hope that Eagle will be launched sometime in 2004, and we are still negotiating launch requirements.

## Ground-Breaking GPS Tests on AO-40 and PCsat

Recent tests of the GPS navigation system on AO-40 were an outstanding success. The command team reported that these tests were particularly noteworthy as it was the first time ever - amateur or commercial - that the GPS satellites were used from ABOVE their orbital ring. The GPS birds are designed to broadcast their signals downwards to users on the ground. Until now it was not known for sure if they could be accessed in a meaningful way from above. Congratulations to the command team for a world-first for amateur radio.

Whilst on the subject of GPS, I reported last month that the PCsat GPS experiment had been turned on. I was fortunate to observe one of the passes over VK and it was working perfectly. My UIview program displayed the position of PCsat as it came into range and continued transmitting position packets every 30 seconds or so until LOS. I was able to follow its progress across Australia and check the track against my WiSP tracking program. As expected, the two agreed perfectly.

## New Amateur Radio Antenna System on ISS

Yep, it's finally happened. After years of makeshift antennas, first on MIR and then on ISS, the permanent amateur radio antenna system was deployed recently during a space-walk. In no small way, this can be seen to indicate that amateur radio has come of age and has been recognised as a permanent adjunct to ISS operations. Congratulations to Lou McFadin, W5DID, who constructed the antenna array in the AMSAT-NA lab in Orlando. These new antennas will provide enhanced communications with ISS.

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## 2002 ARDF World Championships

**The Slovak Amateur Radio Association (SARA) will host the 11th World Championships of Amateur Radio Direction Finding September 2-7 in the Slovak Republic.**

Participants are divided into five categories for men and four categories for women, in accordance with newly approved ARDF rules of the International Amateur Radio Union (IARU). Each country may have up to

three members per category on its team. IARU societies for each participating country should have submitted a Letter of Intent with tentative team size by January 31.

## New amateur radio antennas installed in space!

**On January 14, thanks to a space walk by ISS crew members Yuri Onufrienko, RK3DUO and Carl Walz, KC5TIE, the International Space Station had its first VHF-UHF antenna installed.**

ARISS Board Chairman Frank Bauer, KA3HDO, who monitored the operation from earth said "It was pretty exciting to see the unfurled ISS ham antenna system permanently mounted on the outside edge of the Service Module," Bauer said. "The antenna system looked breathtaking just as it was supposed to."

While crewmate Dan Bursch, KD5PNU, monitored and videotaped the space-walk—or EVA—from inside the ISS, Onufrienko and Walz first relocated a Russian cargo crane used to maneuver equipment and space-walkers. Then, they installed the flexible-tape VHF-UHF Amateur Radio antenna on a handrail at the end of the Zvezda Service Module—the crew's living quarters. The ARISS initial ham station gear—single-band hand-held transceivers for 2 metres and 70 cm—is installed in the Zarya Functional Cargo Block. NA1SS currently uses antennas that were installed to aid docking operations and EVAs. The new VHF-UHF antenna is the first one designed for and dedicated specifically to support ARISS operations.

Three antennas are for VHF-UHF, while the fourth will support HF, although no HF gear is aboard the ISS at this point. Installation of the new antenna on Zvezda paves the way for two separate ham stations aboard Space Station Alpha.

Bauer credited Lou McFadin, W5DID; Mark Steiner, K3MS; Ken Nichols, KD3VK; and Mark Clausen with providing support for the antenna installation from the NASA Goddard/ISS Ham-Goddard Control Center. He said Carolyn Conley, KD5JSO, provided antenna installation support at NASA's Johnson Space Center Mission Control Center. "Congratulations team on a job well done. We have taken our ideas, concepts and vision and transformed them into reality," he said.

The antenna installation got top billing in several high-profile media outlets covering the space walk.

On January 25 the new HF antenna was installed—although there's no HF gear aboard the ISS as yet. The antenna was put into place during a space-walk—or EVA—conducted by Expedition 4 Crew Commander, Yuri Onufrienko, RK3DUO, and astronaut Dan Bursch, KD5PNU.

The antenna is a flexible-tape design—similar to, but longer than, the VHF-UHF antenna previously. The antenna is installed at the end of the Service Module in the 2 o'clock position (6 o'clock is pointing toward Earth).

The HF antenna is a 2.5-metre (8.2-foot) long flexible tape. Bauer thinks it will definitely work on 10 metres and speculated that it might work on 15 or 20 too. Bauer added that he did not know when HF gear would be transported to the ISS or when it might be made available for use by a future crew.

This EVA lasted several hours and also involved attaching six thruster plume deflectors on the ISS as well as the ham antenna work. Installation involved not only the mechanical deployment of the antenna but routing cables, establishing the RF connection and even photographic documentation.

A paper entitled "2001: an Amateur Radio Space Odyssey on the International Space Station," which details the development of ARISS and discusses the four new ARISS antennas is available via the ARISS Web site <<http://ariss.gsfc.nasa.gov/EVAs/amst01.pdf>>.

## Taking the pill

### United Kingdom

The world of medical communications research has finally caught up with the lights of Hollywood. This, as we learn of the part Australian developed tiny radio camera-in-a-capsule that patients can swallow. It is a camera that will transmit pictures to give doctors a close-up view of what is inside of you.

The new transmitting video pill is made by Given Imaging Ltd. It is called

the M2A Swallowable Imaging Capsule. It is also exceeding tiny. It is so small that it is easily swallowed by the patient. Its inventors say that it then painlessly winds its way through the digestive tract and uses wireless technology to transmit full colour pictures to a belt pack receiver worn by the patient. That unit also decodes the signal and records the information as the patient goes about his or her daily routine.

The entire system is reminiscent of the science fiction movie "Fantastic Voyage." In that film a submarine and its crew of medical specialists are miniaturised and injected into the bloodstream of a critically injured man to perform an operation to save his life while receiving instructions by two way radio.

(Science Today via [arnewline&QNEWS](http://arnewline&QNEWS))

# Mobile operation in Europe

## The "e" Mark

Today cars and trucks are very sophisticated and many have electronic systems that require safeguarding to ensure that they do not cause interference to the braking and speed control systems.

Back in October 1995, the European Commission (EC) issued a directive (95/54/EC) with the aim of improving safety by minimising the risk of interference to essential electronic systems in vehicles. This directive did not specifically target radio communication equipment, but all fitted electronic/electrical equipment

The Directive states that all four-wheel vehicles (other than tractors and mobile machinery) with a design speed greater than 25 kph will need to meet suitable electromagnetic compatibility (EMC) standards. Equipment that meets these EMC standards is marked with an "e"

mark. The "e" mark should not be confused with the "CE" mark, which is for general equipment, and requires conformity to a number of different standards.

No new car built after October 2002 can be fitted with a radio transceiver, or any other equipment that produces radio emissions, unless that equipment has an 'e' mark fitted. This presents a number of problems, not least if a mobile radio user acquires a new car it will not be acceptable to transfer the old radio to the new vehicle unless it has the "e" mark, a fact that could cause considerable hardship to some businesses.

It is interesting to note that the British RA is currently unaware of any manufacturers who are making "e" marked equipment for the radio industry! Imagine the effects on the use of cell-phones, etc.!!

(RSGB Jan RadCom)

But there is hope. The following is a translation from January DL/QTC

With the increase in electronic equipment to control the operation of an automobile, there has been quite an outcry in Europe as to the effect Amateur Radio equipment has with the electronic system.

Car manufacturer Renault has recently advised the DARC that they give permission to install and run radio equipment in their cars. Specifications have been given for every model regarding the mounting of the radio, the position of the aerial, frequencies and power. Renault is using a guidance paper recommended and acknowledged by all major car manufacturers in Europe. All specifications given have to be complied with. Non-compliance can cause a loss of warranty on the vehicle and as stated earlier a loss of insurance cover.

DL/QTC1/02 via VK4BDQ

## Single letter suffix for Germany

The German Telecommunication Authority has accepted a recommendation from the German Amateur Radio Club (DARC) to use single letter suffixes. However, this will only be issued to Club stations and is expected to take effect later in the year.

DL/QTC1/02 via VK4BDQ.

## New Zealand simplifies amateur licencing

New Zealand has streamlined the route to obtain an Amateur Radio license. New Zealand now offers just two license classes, Limited and General. The Novice and the Novice/Limited licenses no longer are issued, although holders may retain them and continue to operate; some also may be eligible for an almost-instant upgrade. The New Zealand Association of Radio Transmitters (NZART) administers the volunteer examination program there, and examinations are supervised by

examiners from NZART branches. Candidates get two hours to complete a 60-question test and must answer 40 questions correctly to pass. The Morse code speed to qualify for the General-grade license has been lowered to 5 WPM. The General License provides access to all Amateur Radio bands with full privileges. A Study Guide and full information on the New Zealand licensing system is available via the NZART Web site <http://www.nzart.org.nz/nzart/>.

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## Silent Keys

### Kevin McGrath, VK3EQM

Kevin McGrath, VK3EQM, became a Silent Key on the 14th January 2002 (aged 74 years) after a short hard struggle with cancer.

Kevin was a keen CW operator and his interest in radio stemmed from a long and distinguished Army career, in which he achieved the rank of Major. His tutorship and instruction ability helped many people in the East Gippsland area to obtain their Ham licence with his knowledge in both

Theory and CW.

Affectionately known as "Poppa Bear", "Grumps" and "Maté", he will be sadly missed in the East Gippsland Amateur Radio Club and to Amateur Radio in general.

The E.G.A.R.C. offers its sincere condolences to Milly, Anne, Jan, Jenny, David and families.

73 Kevin. from:  
VK3RS-Ron Sutcliffe, E.G.A.R.C.  
R.I.P.

### Barrie Lakey VK3BL

It is with great sorrow that our esteemed Secretary passed away on January 4, after a long illness, and will be sadly missed by all members for his help, contribution and friendship over many years with our club. Our deepest sympathy goes to XYL Yvonne and family.

President, Committee and Members.  
Midland Amateur Radio Club. Inc.  
Bendigo, Victoria.



## Part 12 - ComputerPhobia

**Are you frightened about using a computer? Do you think that if you use a computer, you might damage something? If you write short letters on your computer, then "click" on the Save icon, can you find them the next day? Can you install new software then run them from a desktop icon? Can you save files to floppy disks? As a reader of this series, if you have any doubt about just one of the questions above, then read on.**

Many people use computers for simple things like writing letters and/or just playing games like Solitaire. The computer may have been purchased as a "package deal" where software is pre-installed, and Icons appear when the computer is switched on. All the user does is to "click" on one of the icons and the computer does the rest. If they need to move a file, or clean out and delete old files, the user is totally baffled. If anything goes wrong the user calls in "a technician". It's clear that this user has what's called "ComputerPhobia".

ComputerPhobia is common in Amateur Radio. For example, one RA has sold or given a computer to a friend with little or no knowledge about computers. Without handbooks or any form of proper instruction, the new owner is totally stumped. The new owner finds the computer far too complicated to understand, and decides to abandon it. He finds it embarrassing to ask someone for help in getting started. What are the pile of software disks for, and how do you use them?

### Case Study No. 1

A RA buys a new computer from his local emporium. All the software is loaded and configured ready to go at first switch-on. Handbooks and all the software are supplied. The user studies the books in detail and tries writing letters and playing a few games. Notes are made at each step and the user's knowledge and experience rapidly grows. He asks friends how to do unusual tasks, and exercises them regularly until he acquires the processes naturally without the notes. Within a few months, the user has gained the confidence to explore new opportunities and is delighted with his new computer. He/she has reached the "fun stage" and the world of computer technology is not Amateur Radio, March 2002

a threatening experience and ComputerPhobia has been challenged.

### Case Study No. 2

An experienced RA with a 2 metre FM transceiver has been given a computer with packet radio software installed. Faced with finding a modem to connect between the computer and the transceiver, and instructions on how to use the installation is daunting, especially when the RA has little knowledge about computers. Asking an experienced RA for tips, the user follows the instructions and successfully connects to the local BBS. However, another RA visits and says that the software is "poor" and installs another package. The visitor fails to correctly configure the new software properly leaving the user without a working packet installation. Once again, seeking advice from the experienced RA, the user returns to the original software package and once again enjoys successful packet radio. The moral to this case study is NEVER INTERFERE into someone else's computer unless you are prepared to fully configure and provide instruction. In this case the visitor's software offered was inferior to what the user originally had!

### Case Study No. 3

An experienced RA and a well-known DXer has an old computer. He wants to connect the computer to his rig, add software to control the station and keep an electronic logbook. The user asks an experienced RA to do this for him, and to supply the software. However, the computer is very old, slow, lacks hard drive space and spare communications ports. The visitor adds a new comport, the rig and logbook software, and provides basic instruction on its use. However, the user has little computer

knowledge, cannot save, and retrieve files and finds note taking difficult as a future reference to problem solving. The user complains that the software is too slow, wants to add packet radio, computerised CW, PSK31, RTTY etc, and asks the experienced operator to do this for him! If the computer lacks the resources to properly do the job in the first instance, then adding more software only compounds existing problems. The solution in this case is solid planning about what you want to do with your computer, and to learn the fundamentals before trying to hook everything together. Move in small steps until the goals have been achieved. Importantly; learn each step before moving forward. If you are not sure about how things work, try looking for the help files in the software, print them and do some serious bedtime reading before venturing into new ground.

### Case Study No. 4

Son gives dad (a senior RA operator) a computer with no documentation or backup software and the senior operator had no experience with computers. A free CD-ROM was used to install Internet access, a new colour printer and image scanner was purchased, and the conglomerate was installed according to the enclosed booklets. With no experience, the senior RA was baffled and overwhelmed by what he saw. Losing patience with the complexity, the senior RA decided to switch off the computer. When tactfully questioned by an experienced RA, the senior operator did not wish to talk about the situation. In this most serious case of ComputerPhobia, the senior had given up learning about new technology. It will be very difficult to put him back on track.

# Solutions

## 1. Training Programs

Most TAFE and Community Colleges offer short-courses in the basic operation of computers. Special courses are available for "seniors" at a discount, and courses may run for one day or several evenings per week.

## 2. Self Motivation

Self-motivation and a desire to explore new technology options drive Amateur Radio as an activity. Using a computer is no different to succeeding as a licensed Amateur Radio operator. In today's world, computers have become central to many daily activities - so why not spend a little time of your own and accept the challenge. Rewards are for the taking.

## 3. Learning to Learn

Many people find it difficult to learn about new things and mentally store and retrieve information gained. In fact, it's common these days to find people who will not listen or question, or even accept good advice offered to them as a gesture to assisting them with problems. They turn away and ignore the gesture as being fickle and undesired. Listening is one of the great skills of life, and developing the wisdom to process and use information gained takes personal concentration.

## 4. AR Clubs and Societies

Organisations at all levels should be mindful that they must regularly provide lectures and seminars to help members - especially those seeking new ideas or lacking knowledge. New juniors and seniors alike is the future lifeblood of any club or society. Help your members to succeed and they return their gratitude by introducing new members. If your organisation fails to plan - then it's planning to fail!

## 5. Opportunity Shops

Don't be afraid to visit your local Salvation Army Opportunity Shop. The writer has found hardware, software, and unused handbooks in abundance - each at prices that will amaze the reader. For a few cents, old software handbooks give new life to your personal knowledge, and answer some of those nagging computer problems. Build a small library as a source of reference, and share this valuable resource with your club mates when they are in

difficulties with their Ham Shack Computer.

## 6. Club Lecture

If you are doing something new, operating a new data mode, using your computer to run your station etc, then offer your services to your club by way of a seminar demonstrating how it all works. Many clubs and societies organise meetings where the "official business" is conducted first - followed by the guest speaker. Avoid this structure vigorously because it's a typical example of planning to fail. Any AR club or society worth its salt elects a committee to handle the "official business" on another day - leaving the members meetings for members' enjoyment, junk sales, meaningful lectures and seminars etc.

## 7. The Spirit of Amateur Radio

If a new member, a junior or senior, or one of your club mates asks you a question, always answer clearly and offer a sketch, diagram, or a reference where they can find more information. Invite them to see your own Ham Shack in operation. Show them by demonstrating how things work, what's needed in equipment and software. If the Spirit of Amateur Radio was alive and well in the 1950's and 60's. Then why not show your colleagues that it's still thriving in the new millennium - but even better with digital modes and computers to assist us enjoy the hobby even more.

## 8. Write things down

New ideas, software instructions, computer quirks, circuit diagrams, operating notes, vintage radio repairs and modifications, antenna design, computer interface diagrams and much more can be written on your Ham Shack Computer. One effective way to become proficient with your new-fangled computer is to write about your favourite Amateur Radio topic. Set the margins, columns, and font sizes to make a start on your document using your favourite word processor. Oh yes, mistakes will be made but the process of learning will rapidly follow. Proof read your work, print out a copy, and read once again. Once you are happy with the content, send a copy to your local club or society for publication. Now this is real productivity using your newfound computer skills. Even your own Ham

Shack Computer notes can be stored in a display book ready for instant reference when needed. At least you won't have problems trying to read your own handwriting anymore, Hi

## 9. Club donations

With so many users upgrading computers these days, ask club members to donate unwanted computer hardware and software to "the club computer pool". Members can then access much-needed items from the pool for a small donation. Ensure that the member gets appropriate assistance and advice. Just selling a huge box of secondhand computer parts for a dollar an item is NOT THE SOLUTION. Offer help at all stages to ensure a satisfied member. Ideally, build up a Club Computer from the bits and have it available (with training) for a new member. Then stand back and see your membership slowly grow by reputation.

## Ham Tip No. 12.

This *Ham Shack Computers* series has now been running for a whole year. The process of writing each "episode" has been exciting and fun for the writer too! Many "episodes" have been written at the express wishes of readers. One member wrote saying that he had given up Amateur Radio until he read *Ham Shack Computers*. The member hooked up his computer to his rig, got PSK31 running and is now planning other uses for his new computerised system!

The first 12 issues are available by contacting the writer by mail, packet, email, or by the plain old telephone system (POTS). Readers desiring copies in Word 97 format (zipped or unzipped) on disk are asked to provide a blank 100Mb Zip Disk. The latest published AR Magazine issue can always be downloaded from the Web Site listed below.

Ham Shack Computers No: 13, *Computer Viruses*, is essential reading for all active Radio Amateurs, even if you are not connected to the Internet but exchange files with other users. Failure to protect your computer from viruses is a recipe for disaster. Requested by Christine, VK6ZLLZ on behalf of the WA Division, Wireless Institute of Australia.

(1) Ham Shack Computers Web Site: <http://www2.tpg.com.au/users/vk6pg>

73s de Alan, VK6PG

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## Contest Calendar March - May 2002

Mar 2/3	ARRL Intl. DX Contest	(SSB)	
Mar 9/10	RSGB Commonwealth Contest		(Jan 02)
Mar 9/10	WWL DX Contest	(CW/SSB)	
Mar 16/17	John Moyle Field Day	(CW/SSB/FM)	(Feb 02)
Mar 16/17	Bermuda Contest	(CW/SSB)	
Mar 16/17	DARC SSTV Contest		
Mar 16/17	Russian DX Contest	(CW/SSB)	(Feb 02)
Mar 23/24	CQ WW WPX Contest	(SSB)	(Feb 02)
Apr 6/7	SP DX Contest	(CW/SSB)	
Apr 6/7	EA RTTY Contest		
Apr 12-14	Japan Intl. DX Contest High Bands	(CW)	(Dec 01)
Apr 13/14	Holyland DX Contest	(CW/SSB)	
Apr 20	TARA PSK31 Rumble		(Mar 02)
Apr 20/21	YU DX Contest	(CW/SSB)	
Apr 25	Harry Angel Sprint		(Mar 02)
Apr 27/28	Helvetia DX Contest	(CW/SSB)	
May 4/5	Danish SSTV Contest		
May 4/5	10-10 Intl. QSO Party	(CW/RTTY)	
May 4/5	ARI Intl. DX Contest	(CW/SSB/RTTY)	
May 11/12	VOLTA RTTY Contest		
May 11/12	CQ-M Intl. DX Contest	(CW/SSB/SSTV)	
May 18/19	Baltic Contest	(CW/SSB)	
May 25/26	Anatolian RTTY WW Contest		
May 25/26	CQ WW WPX Contest	(CW)	(Feb 02)

Greetings to all readers. You probably realise that lead-times for notes in magazines like this mean that articles are written some little time before you see them in print. Because of that, as I start these notes the annual Ross Hull and Summer VHF Field Day contests have just concluded and I am very much looking forward to the results - not because I expect to win, but because I tried to practise what I write and entered in areas which are not normally my operating fields.

I really enjoyed the experience, even though I was surprised at the lack of signals on two metres SSB as far as the Ross Hull was concerned. So what can I think about this? Three things come to mind - either I was listening and calling at the wrong times (even though I made a point of calling at different times), or there is much work to be done on my antenna system for those bands. Probably the answer is in both of these thoughts.

(By the time these notes appear in print my wife and I shall be about to move house, so a new QTH will be an opportunity to plan afresh for a new antenna set-up.)

However, is there something else in the form of many of us not using the capabilities of our radios? Huge numbers of operators have radios that cover every

band and mode these days. *What a shame that no use is made of them.* After all, a few regulars competing between themselves is hardly a "contest", is it?

The moral of all this is, I think, don't be afraid to get in and try something new and don't be put off if it does not go all that well the first time. Improvements can always be made if the will is there. I certainly enjoyed the experience of VHF contests and shall repeat it at some future time.

## Different Modes?

If you look at the Calendar you will see that in May there will be several RTTY contests and even an SSTV section in one event. Why not aim to try something different like that this year? You may be quite surprised at your results! Look forward to hearing you.

# Thinking Point

If you look at the rules for the TARA PSK31 Rumble below, you will see several references to web sites. In these days of electronic communications this is quite understandable. So it raises the question about the philosophy of columns like this.

As you know, this column has brought comments, rules and results for many years. I do feel that it is time for a change of style in my comments, but is there still a need amongst you readers for details of rules to be published? Are you able, or would you prefer, to find these on a web site yourself? Should I concentrate on just VK/ZL rules (even though these are available on web sites)? Is it time for a complete change of column format?

I would genuinely like to hear from you on this and it leads me directly to the next item below. Please e-mail me: contests@wia.org.au

# New Contest Web Site

Last year, about the middle of the year I think, I mentioned that I would try to establish a web site focusing on Australian contests. Well, I did a lot reading and trying to put things together and finally it has happened!

The new site is now available with a URL (address) of [www.vkham.com/contest/](http://www.vkham.com/contest/)

I do not want it to be an elaborate site (i.e. lots of pictures and things that will take ages to view or download), but I would like it to meet your needs. Please have a look and let me know your thoughts. Certainly I would like it to be a reference for VK and ZL contests in these days of increasing use of electronic media for disseminating information.

# Harry Angel Sprint

Finally, the annual Harry Angel Sprint is approaching again and details are below. Please note that at time of writing

I understand that there is no Manager appointed for this year, so I ask that logs be sent to me at WIA Federal Office.

# Attention all contesters

Due to security concerns, all participants in CQ-sponsored contests are asked to submit their logs electronically. Logs received though the mail at CQ offices will be held unopened until all potential health risks have been evaluated. There is no guarantee that mail will be opened. Please see the rules for all CQ contests. **73 and good contesting, Ian Godsil VK3VP**

# Results CQ WW DX Contests 2001

(VK/ZLs only)

CW	VK6VZ	6,647	points
	VK2AYD	42	"
SSB	ZL6QH	13,884	"

# Rules Harry Angel Memorial Sprint

1100z-1246z Tue 25 April, 2002

This is now an annual Contest to remember VK's oldest licensed operator, Harry Angel. Please note the time length of the Contest-106 minutes, Harry's age when he died in 1998. It is open to all appropriately qualified HF operators.

**Object** is to make as many contacts as possible

**Band** 80 metres, using modes CW and SSB.

**Categories:** World Operator (CW, Phone, Mixed) and SWL.

**Frequencies:** CW: 3500-3700 kHz, Phone: 3535-3700 kHz.

Contacts in DX window not permitted.

**Exchange** RS(T) and serial number; revert to 001 if 999 reached.

**Score** two points per CW QSO and one point per Phone QSO. Stations may be worked once only per mode.

**Logs** must show time UTC; callsign worked (both callsigns for SWLs; mode; RS(T)); serial numbers sent and received for each QSO.

Send **summary sheet** showing name and date of Contest; name, address and callsign of entrant; category entered; points claimed and a signed declaration that the rules and spirit of the Contest were observed.

Send written logs to:

Harry Angel Sprint, WIA Federal, PO Box 2175, Caulfield Junction, 3161, by Friday, 24 May, 2002. Logs may be sent by e-mail to: contests@wia.org.au

# Rules TARA PSK31 Rumble

20 April 0000z - 2400Z

**Mode:** PSK only. 80,40,20,15,10,6 meters. Work stations once per band.

**Exchange:** name; state/province/DX send dxcc prefix. Operate 1 of 6 categories.

**The Club Challenge,** special rules for this on web site below!

**Power:** Normal: 100w max. Great: 20w max. Super: 5w max.

**Final score** is QSOs (W + VE + JA + VK call areas + 1 point per DX incl. your own).

**Multipliers** count once per band.

To be valid, scores must be received via our online score submission form found at <http://www.qsl.net/wm2u/score.htm>, or e-mail Logs to [wm2u@n2ty.org](mailto:wm2u@n2ty.org), by last entry date: 18 May, 2002. Logs must be available for review if requested.

Please read web rules for details on <http://www.qsl.net/wm2u/rumble.html> or <http://www.n2ty.org>. Info e-mail to Bill Eddy, [ny2u@n2ty.org](mailto:ny2u@n2ty.org) or Ernie Mills, [wm2u@n2ty.org](mailto:wm2u@n2ty.org)

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# Spring VHF-UHF Field Day 2001: Results

Contest manager: John Martin VK3KWA

Call	Name	Locator(s)	6 m	2 m	70 cm	23 cm	12 cm	9 cm	6 cm	3 cm	TOTAL
------	------	------------	-----	-----	-------	-------	-------	------	------	------	-------

## Section A: Single Operator, 24 Hours

VK5AIM	S. Mahony	PF94, 95	52	171	275	500	-	-	-	-	998
VK5ZUC	A. Russell	PF94	-	171	280	-	-	-	-	-	451

## Section B: Single Operator, 6 Hours

VK3WRE	R. Edgar	QF31	-	189	305	488	330	450	-	320	2082
VK3KAI	P. Freeman	QF21, 22, 31, 32	-	261	405	472	-	440	-	210	1788
VK5ADE	S. Cameron	PF94, 95	51	165	265	376	-	-	-	-	857
VK5UE	C. Low	PF94, 95	47	153	245	376	-	-	-	-	821
VK3YE	P. Parker	QF21	36	300	210	-	-	-	-	-	546
VK3PC	J. Linton	QF22	-	105	-	-	-	-	-	-	105

## Section C: Multi Operator, 24 Hours

VK3ATL	GARC (1)	QF21	-	504	670	848	-	-	-	450	1862
VK3AEF	(2)	QF03	58	417	585	376	-	-	-	-	1436
VK5BAR	AHARC (3)	PF95	-	140	80	-	-	-	-	-	240

## Section D: Home Station, 24 Hours

VK3FMD	C. Kahwagi	QF22	41	474	600	784	340	340	210	210	2999
VK3TMP	M. Pickering	QF21	38	396	455	560	-	-	-	230	1679
VK3YB	P. M. Pavey	QF21	54	297	310	424	-	-	-	-	1085
VK5AR	A. Raftery	PF95	37	117	190	288	-	-	-	-	634
VK3VB	P. H. Pavey	QF21	39	123	180	-	-	-	-	-	342

- (1) Geelong Amateur Radio Club: D. Learmonth VK3XLD, L. Sim VK3ZLS, C. Gnaccarini VK3BRZ, A. Gnaccarini (SWL).  
 (2) J. Bywaters VK3AEF, B. Farmers VK3AQX.

- (3) Adelaide Hills Amateur Radio Club: D. Cavies VK5AFO, P. Hoffman VK5XPH.

Two logs were re-scored. One had counted a repeat contact which had been made too soon, and the other claimed

some contacts which had been made after the expiry of the six hour operating period.

Sincere thanks to Mark Detering VK3TLW for assistance in checking the logs.

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## Silent Key

### Peter Campbell, VK2AXJ

It is with regret that I report that Peter Campbell VK2AXJ passed away on 12 February 2002, after a long illness.

Peter was born at Leeton NSW in 1932. He was educated at Leeton High School after which he moved to Sydney and undertook an apprenticeship in tool fitting. He qualified as a toolmaker and was employed by CSIRO in the Microwave Measurements Laboratory for many

years, retiring in 1991.

Peter obtained his first licence as VK2ZPB in 1961 and his unrestricted call VK2AXJ shortly thereafter. He was very active on VHF and HF in Sydney in the 1960s and was a very keen constructor and experimenter.

Upon retirement, Peter moved to the Mid South Coast of NSW and was very active as Radio Officer for the local Coastal Patrol. A competent computer

programmer, Peter did considerable work on computerizing maps of the coastal area. His programs are widely used by other branches of the Coastal Patrol. He also was a tireless worker for the Mid South Coast Club.

Peter will be sadly missed by all that knew him.

**Stan Bourke VK2EL,**  
 Secretary Mid South Coast Amateur  
 Radio Club, Inc.

## How's DX?

Ross Christie, VK3WAC  
19 Browns Road, Montrose 3765, Vic.  
Email vk3wac@aol.com

# How to work under-the-dog-pile DX

How easy do you find working DX and DXpeditions, that is the real rare under-the-dog-pile type of DX? If you're like me you'll have a listen for a short while for any instructions being issued by the DX station then jump in with both feet. Also, if you're like me, you'll call and call mostly to no avail, continuously being drowned out by the expert DX chasers who appear to run many kilowatts to multi-element beams mounted at tens of metres above ground.

Many DX and DXpedition operators run schedules, beaming into specific areas to try to maximise the number of contacts they make, putting their rare call into as many logbooks as possible in the short time they are on air. These schedules are often based on the known 'most needed DXCC' requirements of particular areas (geographic and callsign) and gives the average operator a fairer go under more controlled and less congested conditions. Oceania (VK, ZL, P29 etc) has been largely ignored by the planners and organisers of major DXpeditions due to a number of reasons, not the least being the small population of amateur operators in the region.

Tony, VK3TZ and Allan, VK2ACA have made moves to improve our collective chances of being heard amongst the big guns. Allan has agreed to conduct a survey of VK/ZL operators with the aim of compiling a 'most needed DXCC list' for our area. This information will be made available to the various DX and DXpedition groups to try and convince them that there is a particular need for certain entities/countries in VK/ZL. We can all help Allan by visiting his site and completing the survey form at <http://www.vkham.com/info/mostwanted.html>

or post him a letter if you don't have access to the Internet. The more people who provide input to the survey the larger the list of active VK/ZL DX operators will be, and the better the chance that we will be scheduled our own slot in DX and DXpedition operations.

IOTA chasers are also in for a bit of bad news this month. A snippet of news from The Daily DX tells of a planned DXpedition by XE2MX, XE1KK, G3OCA and G4CWD to activate some of the islands off the coast of Baja, California, Mexico being torpedoed, by (you'll never guess) Mexican amateurs! Apparently Mexican amateurs registered objections with the authorities, and unfortunately, have been successful in having the necessary licences for the operation withheld. Fred, N6AWD and Ray, N6VR had arranged for vital equipment and support to be available to the group on their arrival in Los Angeles. Alas, the group has determined to forego any further plans for activating these islands.

The recent volcanic activity in the Republic of Congo has found amateur radio playing a vital role in communications in the region. ARAC has been requested to set up emergency

HF links between Goma and Kinshasa after the failure of the telecommunications infrastructure. The IARU has submitted a proposal that could see four permanent amateur radio licences being issued. Good news for amateur DX'ers at least, but very sad for the local population who must be suffering terribly in the aftermath of the destruction caused by the volcano. It's a pity that the value of amateur radio as communications tool is under estimated until disasters such as this occur. Patrick, 9Q/F6BLQ, who is already in The Republic of Congo, suggests there might be some activity from here during the CQ WPX SSB contest at the end of March.

Another sad note is the news of Shiro Nomura, JA1CB, who became a silent key at the age of 70 years old on the 18<sup>th</sup> of Jan 2002. Junji Saito, JA7SSB, JA1AND and W9KNI have the onerous task of informing us of his passing. Although Shiro was not a keen DX'er, as an executive and chief engineer at Kenwood Radio he was responsible for many of the companies major developments. He designed the TS-900 some thirty years ago and more recently the TS-930s. Our condolences go to his wife, daughter and son.

## The DX

**5R, MADAGASCAR.** Bruno, F5DKO, says he will be active from the 4<sup>th</sup> until the 16<sup>th</sup> of March from a variety of islands off Madagascar. He expects to be active during the first week from Madagascar's Coastal Islands West Group (AF-057), and the second week from Madagascar's Coastal Islands East Group (AF-090). QSL via IZ8CCW: Antonio Cannataro, PO Box:360, 87100

Cosenza, Italy. [TNX F5DKO and OPDX]

**CE, CHILE.** Marco, CE6TBN, will be active on all bands 10-40 metres SSB over the weekend of the 8<sup>th</sup> to 10<sup>th</sup> of March as CE6TBN/2. He will be operating from Damas Island (SA-086). QSL via N1IBM, Morris E. Maze III, 847 Dolan St., Lanoka Harbor, NJ 07834, USA. [TNX CE6BTN and 425 DX News]

**J3, GRENADA.** Bill, VE3EBN will be

active on 10-40 metres CW and SSB as J37LR from Grenada (NA-024) during February and March. QSL via VE3EBN either direct or through the bureau. [TNX VE3EBN and The Daily DX]

**J6, St Lucia.** Gary, K16T will be operating on 10 - 80 metres, SSB and CW, as J68GS from St. Lucia (NA-108). Activity will take place from the 21<sup>st</sup> of March until the 2<sup>nd</sup> of April. Gary says



he will also participate in the CQ WPX SSB Contest with J6DX. QSL route for J68GS is via KI6T either direct or through the bureau. [TNX KI6T and 425 DX News]

**P5, NORTH KOREA.** Ed, P5/4L4LN, is back on the air again and using the new Butternut Vertical that was sent him. All reports indicate that he is getting out better and that he is on 15 metres as well now. He can often be heard on 21225kHz after 2300 UTC, also check 28580kHz. Ed makes a practice of working stations according to call areas; this is a good practice as long as people listen, and respond, to what call is being requested. [TNX OPDX]

**PJ2, CURACAO.** Larry, K6RO and Ron, W6UL will be operating mainly on the WARC bands and 160 metres on SSB and CW from Curacao (SA-006) between

the period 27<sup>th</sup> of February until the 5<sup>th</sup> of March. Larry intends to operate in the ARRL DX SSB Contest held over the 2<sup>nd</sup> and 3<sup>rd</sup> of March as PJ2K while Ron will be signing as PJ2/W6UL before and after the contest. QSL via KU9C. [TNX K6RO and 425 DX News]

**YA, AFGHANISTAN.** Nick, G4KUX has been active as G4KUX/YA on 20 metres. Nick says that he is in Afghanistan helping to install and set up an international communications network. Although reports say that there has been no documentation submitted to the ARRL regarding his YA operations (the 'work first worry later' policy is best implemented at this stage) Nick says that he has been working for the government for some time and is sure that documentation will be available soon.

Have a listen around 14198kHz after 0330 UTC. QSL via G4KUX. [TNX G4KUX/YA and OPDX]

**YA0USA, AFGHANISTAN.** Karl, K4YT has managed to obtain a club license, callsign YA0USA, which can be used by US government officials operating from the American Embassy in Kabul. Karl personally activated the call prior to leaving Kabul on a trip. QSL via K4YT. [TNX K4YT and The Daily DX]

**ZL5, ANTARCTICA.** Chris, KC4/N3SIG is presently active as ZL5CP from the New Zealand "Scott" Base located on Ross Island (AN-011). QSL via AI3D. Have a listen for Chris on the Antarctic net on Monday nights on 15 metres. [TNX DL5EBE and 425 DX News]

*continued next page*

## The other end of the circuit SP7GIQ

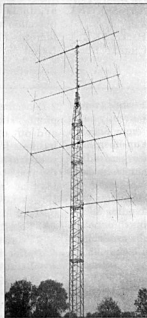
Henryk Kotowski SMOJHF S05JHF

Chris SP7GIQ is 45 years old and received his licence at the age of 16. He learned contesting and building Yagi antennae at clubs near Warszawa, Poland. About ten years ago he moved to a small town of Lask, erected a few towers, built Quad antennas and started winning contests.

As of today he has:  
10m 5 element Quad at 27 m  
5 + 5 + 5 + 5 (stacked)  
Quads - top at 35 m  
15m 4 element Quad at 27 m  
4 + 4 (stacked) Quads at 35 m  
20m 4 element Quad at 27 m  
4 + 4 (stacked) Quads at 35 m  
40m 2 element Quad  
80 and 160m a vertical for transmitting and Beverage wires for receiving.

IC751A and a similarly ancient Alpha amplifier and a medium sized house.

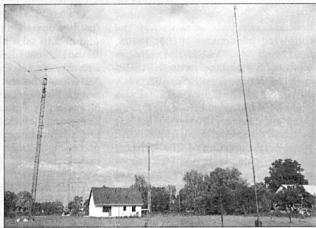
e-mail:  
sp7giq@pro.onet.pl



Detail of the Stacked Quads



SP7GIQ in his shack



General view of the station

# Special Events

**ON, BELGIUM.** A group of operators from the city of Bruges will be active as **OP1A** on all bands and modes from the 20<sup>th</sup> of Feb through until the 31<sup>st</sup> of December. The special call is to celebrate the award to the city "Bruges 2002, Cultural Capital of Europe". QSL via ON5TO, Omer Timmerman, Boterbekeweg 8, 8200 Bruges, Belgium. [TNX ON5TO and 425 DX News]

**INTERNATIONAL LIGHTHOUSE/SHIP WEEKEND 2002.** Mike, GM4SUC, has announced that the International Lighthouse/Lightship Weekend 2002 will take place from 0001z on Saturday the 17<sup>th</sup> of August until 2359z on Sunday the 18<sup>th</sup> of August. Last years event had 348 amateur radio stations on air from

lighthouses and lightships in 46 countries. A full list of stations that were active including their QTH and QSL information can be found at <http://vk2ce.com/illw/2001.htm> More information will be released regarding this years event later in the year.

**9N, NEPAL.** Charly, K4VUD / 9N1UD has sent word that all the donated equipment from US amateurs he took to Nepal a couple of years ago is still working wonders for the hams there. Many DX'ers will remember the late Father Moran, 9N0MM, and on the 14<sup>th</sup> of April they will celebrate the anniversary of Father Moran's operations. Unfortunately, due to the political fallout after the murder of the

King, and members of his family, 9N1AA and Charly have not been able to secure Father Moran's callsign, 9N0MM. This call was at one time proposed as a club callsign in Father Morans memory. However, they have not entirely given up hope of obtaining the call and still intend to establish the memorial club station in Kathmandu. [TNX OPDX]

**UA, RUSSIA.** Vlad, RN4LP says that the club station RW4LYL will use the special call RI4M throughout 2002, although he forgot to give the reason why. Perhaps it'll come out later (unless it's a Russian state secret!) QSL via RN4LP, Vladislav Lakeev, P.O. Box 208, Dimitrovgrad, 433512, Russia. [TNX RN4LP and 425 DX News]

## Dxpeditons

**KH1 (Baker and Howland Islands).** Operators for the KH1 (Baker & Howland) DXpedition have been selected and will comprise YT1AD as team leader, AH6HY, K1LZ, K3NA, K6NDV, KW4DA, N6TQS, RZ3AA, YU1AU, YZ7AA, Z31FU, Z32AU and Z32ZM. The group will depart Los Angeles on the 20<sup>th</sup> of April and head for Nadi, Fiji Islands. Part of the team will then embark for Tuvalu, while five operators will fly to Funafuti and operate for three days with a T2 call. The entire team will depart from Funafuti on the 26<sup>th</sup> and will arrive on Baker Island on the 29<sup>th</sup> or 30<sup>th</sup> of April. They hope to be able to operate from the island from the

30<sup>th</sup> of April until the 10<sup>th</sup> of May when they will return to Fiji then on to Los Angeles and finally to the Dayton Hamvention. The team will be comprehensively equipped having six transceivers, five amplifiers, four generators and a variety of beams, verticals and dipoles. Plans are to operate on 160 to 6 metres on CW, SSB, RTTY, PSK, SSTV, FM and Satellite. The callsign will be announced when the operation starts to prevent any pirating of the call. QSL via YT1AD (CW, RTTY, PSK and SSTV) and RZ3AA (SSB). [TNX YT1AD and 425 DX News]

**H40, TEMOTU.** Nick Hacko, VK1AA (VK2ICV/VK9LX) and Ranko Boca,

YT6A will be operating from Temotu between the 28<sup>th</sup> of March until the 12<sup>th</sup> of April. All previous operations have mainly concentrated on the higher HF bands so this operation will spend most of their time on 40, 80 and 160 metres and the WARC bands using CW and RTTY. Strict baggage limits (16kgs) have meant a special, and costly, deal with Solomon Airlines in order to transport a vertical antenna and amplifier to the island. To cover this extra cost donations will be gladly accepted. A website is available with more details of the operation at <http://www.qsl.net/vk1aa/temotu/> [TNX VK1AA and 425 DX News]

## Round up

**HP1BYS** advises that permanent beacons were to be activated on the following frequencies 10108, 18105, 50012 and 144292 kHz. The callsigns allocated for the beacons are HP1RCP/B, HP1AC/B and HP1AVS/B. (TNX HP1BYS and The Daily DX)

**9K, KUWAIT.** Members of the Kuwait Amateur Radio Society (KARS) activated the special callsign 9K2RA/AE to celebrate the return of "His Highness the Amir of Kuwait Alshaikh Jabber Alahmad Alsbah" from a successful trip overseas for medical treatment on Tuesday 15th of January 2002. If you worked them a special QSL card is available. Note, the suffix "/AE" is the suffix letters in the Amirs callsign, 9K2AE. [TNX OPDX]

**XF4, MEXICO.** XE1BEF sends a report that two operations are currently being planned to take place from **Socorro Island (NA-030)**, Revilla Gigedo in 2002. The first one is being organised by XE1KK and he will announce he dates soon. The second is planned for November by a group of operators from Europe and Mexico, including DJ9ZB and XE1BEF himself. More information on both operations will be available in due course. [TNX XE1BEF and 425 DX News]

**AFGHANISTAN.** Peter, SM7PKK and QRZ-DX have provided the latest news on operations from Afghanistan. Information to hand reveals that any operation using the callsign YA5T after

2 December 2001 was definitely by a pirate station. Peter has been flying in and out of Afghanistan on official business for the past few months. His pattern of movements will be similar for the next few months as well, so he says his time on air will be very sporadic. However, Peter is not the only amateur operator in the country.

- Robert, SM7PKK will be spending February and March in the country after a trip to the United Arab Emirates, A6.
- Mats, SM7PKK will be in the UAE, A6 for a few couple of weeks after which he might be spending some time in YA.

- Mark, ON4WW is in Pakistan, AP and should be in YA by the end of January for at least a couple of weeks.
- Nick, G4KUX has been signing G4KUX/YA for several days now. This is his sixth trip to Afghanistan where he is involved with a major telecommunications project. He will be in YA until early February and will return to Kabul after a few weeks' break. The ARRL DXCC Desk has not received any documentation so far; reportedly Nick has a verbal authorization and expects a written permission shortly. QSL via G4KUX.

**A50B, BHUTAN.** This callign has been assigned to the new club station for the Technical College, Polytechnic and University of Puentsholling, Bhutan. The station equipment has been set up by Ray, G3NOM/A520M. QSL to P.O. Box 88, Thimpu, Bhutan. [TNX The Daily DX and 425 DX News]

**TM2E, FRANCE.** This special call was used on the 1<sup>st</sup> to the 14<sup>th</sup> of January to celebrate the adoption and introduction of the new Euro currency in France as well as eleven other European countries. QSL via F8BPN. More information on the Euro-Award can be found at <http://www.euro-award.fr.st> [TNX F8BPN and 425 DX News]

**HAMAWARDS.COM.** <http://www.hamawards.com/> is new website currently under development that should have been officially launched in early February by A.J. Farmer, KB3HGY. The idea of the website is to create a centralised index of awards available to

## Poland: A Central European Country with a stormy history

**Political changes in this region some 12 years ago resulted in a more independent governing system. The country has recently become a member of NATO. Some 40 million people live here but as many Poles live abroad scattered around the world.**

Approximately 15000 licences are issued in Poland with prefixes SP, SQ, SN, 3Z. Foreign nationals visiting or settled here are given SO -prefix.

As of January 1, 2001 the CEPT agreement is effective in Poland. The national organization, PZK an IARU

member has its headquarters in Bydgoszcz nowadays, <http://www.pzkorg.pl>. During a recent IARU HF Championship PZK's "headquarters" station SNOHQ did extremely well.

amateur radio operators. [TNX HA5CQ and 425 DX News]

**KH4, MIDWAY.** David Robbins, K1TTT reports that "the Midway Phoenix Company, which has been running the island's infrastructure, is vacating the island effective the 1<sup>st</sup> of March. This essentially closes down the entire island except for the Fish and Wildlife Service post. All air transport has been canceled, stores and accommodation sites are closed and all the company employees are packing to leave". This means that Phil/G3SWH and Jim/G3RTE have been forced to cancel their 30<sup>th</sup> March until the 6<sup>th</sup> of April 'W4M' operation, much to their disappointment. It also means that future visits to the island will be that much harder as the company also maintained the airport equipment and runways. [TNX AD1C, G3SWH and 425 DX News]

The correct QSL route for VP8GEO (South Georgia) is VE3GCO. [TNX The Daily DX].

Don't forget, pay a visit to Allan VK2ACA's website and complete the VK/ZL DXCC 'most needed' survey form, at <http://www.vkham.com/Info/mostwanted.html>

## Sources

Thanks this month to the following for their kind permission to use the above material in DX Notes.

AD1C, G3SWH, HA5CQ, F8BPN, ON4WW, SM7PKK, SM7PKK, XE1BEF, HP1BYS, VK1AA, YT1AD, RN4LP, GM4SUC, ON5TO, DL5EBE, K4YT, G4KUX/YA, K6RO, K16T, VE3EBN, CE6BTN, F5DKO, JA7SSB, JA1AND, W9KNI, 9Q/F6BLQ, VK3TZ, VK2ACA, QRZ-DX, 425 DX News and The Daily DX.

## Selwyn Weston, VK2SY

It is with regret that I advise of the passing, on Monday 7th January 2002, of Selwyn Weston, VK2SY, at the age of 89, following a massive heart attack.

Sel was born and reared in Morpeth in N.S.W. He served in the RAAF during World War 2, where he established the communications facilities of a number of forward airfields and rose to commissioned rank.

After the war he established Weston Electronics, which pioneered the use of two-way radios in motor vehicles, was instrumental in equipping many outback stations, and produced a

number of excellent commercial units still in use today. He was also the first manager in Australia of Kenwood Electronics and one of the first to employ Dick Smith. The several businesses with which he was associated flourished because of his technical and administrative skills, his inventiveness, and, above all, because of his personal integrity.

Following his retirement he became active in the RSL, and having, in later years, acquired a knowledge of computing, he devised programs for the calculation of pensions, which he then

donated to that body.

He is survived by his wife, Kere, his two children, Max and Sandra, and his grandchildren.

Sel was a brilliant man, a good friend and an outstanding amateur. His loss will be felt by his many radio associates, both amateur and professional, and particularly by those amateurs with whom he maintained contact to within a few months of his death, in the persons of VK2PM, VK2RJ, VK2DV and VK2DDL.

Vale Sel Weston, VK2SY.

Stan Ellis VK2DDL, [svellis@tsn.cc](mailto:svellis@tsn.cc)

## Silent Key

# VHF/UHF

## AN EXPANDING WORLD

David K Minchin VK5KK

Postal: 10 Harvey Cres, Salisbury Heights, SA, 5109

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## 50 MHz enters the Second Camel's Hump!

**Like a few sunspot cycles past, it looks like this one may have two peaks, with a good start to the autumn equinox reported from several quarters.**

Steve VK3OT reports ... Possibly the best EU dx I have ever experienced came in here on Feb 3rd from 0730Z, a bit like that opening you guys (VK5) had in 1992. The day started with a chance QSO on SSB with ZF1DC Cayman Islands, out of the blue, worked in VK2 also by VK2BA I think. All afternoon, the VK6 beacons were strong on 066, and two up above 50.3. Later the VK6s started working ZL3.

At about 0730 right on teatime, I heard a 6 suffix down on 101 thinking it might be VK6ADI turned out to be I6BQI, he was 559 to 579 in copy. Later still on 110 I heard IK1EGC, EY8MM and a 9A all calling CQ, and later still settled down on 106 and worked around 70

stations over the next 90 minutes of opening. I worked Italy, Croatia, Bosnia, Yugoslavia, Poland, Austria, France, Germany, Slovakia, Belgium, Netherlands, Slovenia, Tadzikistan. 4 new DXCC countries bring me up to 120+ worked. Total QSO's however over past 10 years is under 300 to 30 countries from Europe. ... All CW 100 watts to 9 element yagi from Grid LOC QF12ag .. 73's Steve VK3OT

Ted G4UPS reports ... thought you would be interested in these surprising QSO's with two VK4 stations today (18.2.2002). I was turning my 6m antenna from 090 degrees to beam due west to check for a possible opening across the pond when I got to due North I heard VK4ABW and just was able to turn the antenna to around 035 deg when I answered his CQ. I worked Gary at 1148 UTC 559 both ways.

I telephoned G3HBR to let him know and I moved from 110 to 105 and put

out a CQDX and got a most pleasant surprise when VK4CXQ answered! Worked him 559/559 both ways at 1152 UTC. I was still beaming around 035 degrees, and by the time I had phoned two other hams both the VK4 stations had faded out. It was only when I checked the DX Cluster later that learnt that VK4CXQ had been spotted at 1157 by JG3LER and at 1208 559 by HL1LTC! So VK4CXQ was certainly spreading his RF around!

The normal path for any VK from here in this restricted valley is a skewed one at 090 degrees, so a rather surprising opening, the kind that keeps us tuning around even when the band is dead! ... 73s Ted G4UPS

Ray VK4BLK reports ... we are back into the DX season here with a good opening to EU. On 17/2/2002 0947Z - 1015Z worked 9G's, 2PA's & 1UT with signals up to S9.

73 RayVK4BLK

## 144 MHz and above

**Tropo reports are few and far between this month.**

Phil VK5AKK reports: 30/1/2002 Worked Darrell VK6KDC this morning at 23:26 on 2m. Signal reports 5x5 and 5x7 over a distance of 2066 km from Adelaide to Manjimup (OF85). Esperance beacon still audible as I write but nothing heard from the Albany beacon this summer. Phil VK5AKK.

From VK5KK's observations, VK6REP beacon on 144.567 MHz was audible from 0900Z 29/1/2002 peaking to around 569 at 1930Z on 30/1/2002. No sign or Albany or Augusta beacons. On average, the Esperance beacon has been heard an average of 1 to 3 days per week throughout January & February 2002; this is way down on previous years.

Andrew VK6YAA, at Collie in WA reports: 3/2/2002 I have just made a contact to VK5 on FM accessing the VK5RAD repeater in Adelaide. QSO was

with Greg VK5THA. Signals with heavy QSB but peaking S9+20db. Andrew VK6XAA

Ron VK3AFW reports: VK5VF Adelaide 519 in Melbourne 31/1/2002 up to 2145 UTC, VK5RSE Mt Gambier good strength, VK3RRU Mildura 529 & VK3RGG Gippsland readable off back of beam. Called CQ on 144.1 beaming Adelaide and then Esperance in between use of channel by Air Craft enhancers. Nil response from the West. Trevor, VK3KEG, reports working VK5AKK last night (2m), others making the grade on 1296. Trevor was also hearing a VK6 beacon during the day yesterday. Ron VK3AFW

Barry VK3BJM reports: a quick run down on activity with the "Big Wheel" mobile 2m antenna over the weekend of the 3/4th of February 2002. No contacts made on the trip to Maldon on Friday night - presumably because all sensible people had their radios disconnected

because of the electrical storms that swept through Victoria. Certainly the pocket of activity that I could see in front of (and then all around) me as I passed along the Castlemaine - Maldon road would have to be one of the most intense displays I've ever seen. There seemed to be a burst of lightning every ten seconds for a good 25 minutes.

Saturday afternoon brought a pleasant surprise - the first time I have managed to hear the Mildura 2m beacon. This was from outside my friends' home, at the foot of Mt Tarrengower, mid afternoon. It must have been warm in Mildura - the frequency was 1kHz up on the usual 144.433MHz.

Around 7pm EDT we popped up to the summit, and put out a few calls. From the lack of responses, it must have been dinnertime... The 2m beacons from Adelaide, Mt Gambier, Mildura, and Gippsland were all heard without difficulty.

On Sunday morning, I dragged myself up to the summit again. I failed to find the Mildura beacon, but Adelaide and Mt Gambier beacons could still be heard. On 144.200, I worked the following stations: 2/2/02 2134Z Rej VK2MP, 55-57 (52-54) - 499km. Lovely signal! 2137Z David VK3AUU, 52 (55) - 207km. Big

wheel to Halo! 2139Z Ron VK3AFW, 57 (no report given) \*, 2142Z Gavin VK3HY, 53 (52) \*, 2149Z Ian VK1BG, 41 (41) - 486km. Very fast chop on the signal from Ian. The report in brackets is the report from the contacted station. \* Both Ron and Gavin were beaming NE from Melbourne when worked.

I also heard Gordon, VK2ZAB, and a subsequent phone call informed me that he had heard me, too. Signals weren't quite good enough to provide a contact - just recognizable mumbles. Still nice over a 740km path. Couldn't hear VK2ZRE, though I heard him being called. Quite a good weekend .. Barry VK3BJM

## Rogue TUBSAT Intruder on 144.100 MHz!

**Those who monitored 144.100 MHz from around 22<sup>nd</sup> to the 26<sup>th</sup> of January 2002 would have no doubt heard the TUBSAT satellite "Intruder" beacon!**

The choice of frequency was unfortunate for VK being our much maligned cloning frequency (calling frequency's new nick name after last month's pot stir in this column!) on 2 metres. The following excerpts have been lifted from a communiqué from Norbert DF5DP, explaining some of the background.

"Today I found the phone number of Prof. Renner at Technical University

Berlin (TUB), Germany, who is the head of the TUBSAT team. I called him by phone and got the information I give below: MAROC-TUBSAT is a joint project of TUB and a Moroccan group at Rabat. This group was responsible for the choice of frequencies. They told him, that they were radio amateurs, and the frequencies were OK and coordinated. The 144.100 MHz downlink is a beacon, which was implemented to support tracking of the satellite and enable discrimination of the correct object in the NORAD data.

Prof. Renner received lots of complaints about this transmission on

144.100 MHz from radio amateurs, especially from Australia. From this he learned, that there must be something wrong with using this frequency. He immediately urged the Moroccan team to switch off this downlink then, and they did so. The command channel of the satellite is 436.075 MHz. This is an up- and downlink. The downlink is not active permanently; it only responds, when the command stations are sending any commands. There are two command stations: one in Berlin, Germany, and one in Rabat, Morocco.... Norbert, DF5DP

## Microwave Round up

**One of these months I had hoped to put in a small review of the Yaesu FT817 5W portable DC to 430 MHz All mode. I bought one for transverter use some time back but alas it has developed the dreaded low power output (try 150mW!) fault that has hit a few of these transceivers. Using my portable set up during the January Field day was a laugh, as a result!**

As I had pensioned off or sold to other potential u-wavers some of my collection of FT290s & IC202s it took 3

transceivers to replace the FT817! In the meantime, Peter VK3KAI has been out portable with his FT817. Comments coming back from field use are promising. After 6 weeks mine still isn't back from Sydney. Hopefully I'll get it in time for the John Moyle!

Peter VK3KCG reports ... A couple of amateurs in Frankston Vic have decided that it is about time to start getting some microwave beacons up and going. A 1296 beacon is now constructed and output power will be around 6 watts. I am currently finishing off the 2400 MHz beacon and the power output should be

10 or 36 watts depending on what line up I decide on for the afterburner.

I am currently negotiating with South East Water to mount the beacons on one of their huge water storage tanks that looks over most of the countryside. Our aim is to send most of the signals in the general direction of Mt Gambier, Adelaide, Albany and Perth. Small vertical antennas that will be fed with a small amount of coupled energy will service the Melbourne community. I hope that these beacons will inspire more amateurs to build equipment for these bands. .. Peter VK3 KCG ex ZPW

## National 24 GHz record out to 200.8 kilometres

Russell VK3ZQB reports ... The cool summer that prevails over southern Australia has not produced significant amounts of tropospheric propagation so far this year, but there are occasions when there is just enough to be useful. This was the case on the morning of the 26<sup>th</sup> January when I was lucky enough to work Colin VK5DK on 24 GHz. We had been watching a small duct that existed between Mount Gambier and Port Fairy that was exhibiting intense ducting on 144 MHz, 432 MHz and 1296 MHz. We had speculated that it was strong enough to make solid contacts on

10 GHz but were a little uncertain about the duct supporting 24 GHz.

After looking at the weather maps and consulting the Hepburn tropo web site, we gambled that conditions would further improve toward the end of the influencing high-pressure cell. Then we would have a dryer northerly airflow that would be beneficial to 24 GHz. We surfaced at 6.30am DST on the morning of the 26<sup>th</sup> to a scene of dense fog, exactly what we didn't want for operating on 24 GHz. A contact with Colin on 144 MHz confirmed that he also was fogged in at Mount Gambier.

We had a contact on 1296 MHz and found that propagation conditions were better than the previous night. We decided that in spite of the fog we would travel to our selected sites and wait for the fog to lift. We were hoping that as the sun heated the air, the fog would lift and we would have a window of good propagation that might support a 24 GHz contact.

Colin went to The Bluff, a high spot west of Mount Gambier while I travelled to Mt Warrnambool near Panmure, east of Warrnambool. It was late in the morning before the fog started to lift and

we established contact on 10 GHz about 2230 UTC. The signal on 10 GHz was very strong and we decided to have a look on 24 GHz. At first, we could hear nothing but then about 2253 UTC, Colin heard my keyer very faintly.

We persisted, by 2334 UTC 25<sup>th</sup> January, the visibility had improved and we could hear each other's keyer at 5-3 with QSB. We had a contact on voice and exchanged reports setting a new national, VK3 and VK5 distance record for 24 GHz.

The fog layer seemed reluctant to lift

as was clearly visible along the coast at 2357 UTC. We thought there was a chance that propagation on 24 GHz might peak further and if it was to get any better, it would be worth moving further to the east toward Camperdown to increase the distance worked.

We watched the signal on 24 GHz for another hour but it did not get any stronger.

Deep fades with peaks of S3 were all we were going to get and conditions seemed to deteriorate as the day progressed. We did not think that

extending the record any further that day was going to be possible and so we packed up and returned to the home QTH.

I am sure that we will have more chances this summer to increase the record distance and as I write this story, the band is showing form with the Adelaide and Esperance beacons audible. So let us hope that even though the summer has been poor, that we might see some late tropo developing... Russell VK3ZQB

## VK3/5 Microwave Field Operations W/E 19/1/2002

Peter VK3KAI reports ... Saturday 19 January was a relatively hot day in Victoria, temperatures reaching into the mid-30's. A small number of microwave operators thought that there might be some prospect of propagation in the evening given the weather forecast. Rob VK3EK set up his portable station in his backyard. Ralph VK3WRE and myself set up our respective stations on the local hilltop (QF31fp). Charlie VK3FMD headed into the southern Dandenong ranges whilst Trevor VK5NC headed for the Portland area (QF01).

The first contacts from QF31 were made by VK3WRE with VK3EK on 3.4GHz and 10GHz at around 1000Z. Shortly afterward, I made contact with Rob using my mobile setup on both 3.4GHz and 10GHz. Contact was made on 2m with VK5NC/3 at around 1025.

He was having some success with Charlie on the Microwave bands - I think contacts were made on 3.4, 5.7 and 10 GHz. From QF31, we could hear nothing of Trevor on any of the microwave bands. By this time an increasingly strong sea breeze was picking up from the SE that may have affected propagation to the east of the Melbourne area. Ralph and I subsequently made contacts with Charlie on 3.4, 5.7 and 10GHz SSB across a 101km obstructed path.

We believe that my contacts establish Mobile records for these bands, with VK3EK on 9cm and 3cm at about 119km and with VK3FMD on 6cm at about 101km. Equipment details at QF31: VK3WRE/p - FT817 with transverters for each band to offset fed dishes. 3.4GHz

20W output, 5.7GHz 10mW output, 10GHz 100mW output. VK3KAI/m - FT817 with transverters for each band. 3.4GHz 10mW, 5.7GHz 4W, 10GHz 100mW. Antennas were a 600mm x 425mm grid pack style dish ex-PayTV covered with "mouse mesh" using a WA5VJB triband feed and a 26dB horn for 3cm. Both of these are on a rotatable mount on the car ski bars. The mast also had lightweight Yagis for 70cm and 23cm mounted on it. The entire set up is capable of being operated mobile at up to 60km/h. True mobile operation is not recommended due to safety considerations. However the set up does allow for relatively rapid change of locations over short distances without the need to pull down and then re-erect the antennas. ..Peter VK3KAI

## GippsTech 2002 Call for Papers

**The Gippsland Technical Conference (GippsTech) has its focus on all topics of relevance to amateurs interested in amateur VHF, UHF and Microwave communications.**

The 2002 event will be held at the Gippsland Campus of Monash University, located in Churchill. The conference location is about 2 hours drive east of Melbourne. The event will be held on the weekend of July 6 & 7.

The Organising Committee welcomes Expressions of Interest from anyone willing to make a presentation at the 2002 event.

Further details can be found at the Eastern Zone ARC website at <http://www.qsl.net/vk3bez/index.htm> or from Peter VK3KAI (QTHR).

## In closing

Rex VK7MO reports .. the VK7RAE beacon on 144.474 MHz is now back on air. The VK7RAE 432 MHz beacon is still off the air.

Sadly, Clarrie Castle VK5KL became a silent key on the 21<sup>st</sup> of January 2002. Clarrie had been active on 6 metres for over 55 years, his most famous achievement was the "50 MHz World Record in 1947", one of the first reported TEP contacts on 6 metres. He remained active on 50 MHz CW up until the last equinox.

Now for a small soapbox. A few months ago a bit of comment hit the e-mail circuits about a lack of 144/432 MHz related material in this column. While a dozen or so emails supported the evolution of the content (vs. a couple that didn't) I whole heartily agree! I am sure the editor would give us more room

but the answer to WHY there isn't more is surely obvious ... I can't print it if I don't get it!

There has been a slow decline in VHF type "contacts worked" contributions for many years according to Eric and my more recent observations. This month it was just two. 50 MHz info is seasonal but on average I receive more contributions than 144/432. The converse has been with microwave and portable contributors. About 1/3 of the microwave material I get each month will fit. If I put any more in, we might just have to rename the column "RIP VHF .. 1000 plus MHz Rules"! So if you want more VHF related stuff in this column send it in ... fix the problem, don't be the problem!

I'll leave you with this thought .. "Intuition is reason in a hurry!"

73s David VK5KK  
ar

# The changing face of SW

**A quarter of the year has rapidly slipped past. It is quite apparent that short wave, as we know it, is changing. Increasingly international broadcasters are opting out of producing their own programming and leasing their unused transmitting capacity to either religious or clandestine political organisations. The UK based firm, Merlin Communications has emerged as the major broker of selling unused transmitter capacity. Merlin was formed by the management of the BBC External service senders and recently was purchased by a British Defence contractor.**

The latest broadcaster to opt out of international programming is Israel. It has announced that it wants to drop all languages on HF other than Hebrew and Arabic. A campaign has been launched to reverse this decision.

Another nation that has recently commenced selling their unused transmitting capacity is France. Test transmissions of the Libyan radio recently commenced but direction finding confirmed that these were coming from France and not Libya. Also the modulation of the known Libyan based senders is quite different compared to the French relays. However Merlin was not involved in this partnership, as far as I am led to believe.

There has been a dramatic increase of late in the number of Chinese HF senders with the majority relaying either the first or second network and are used to occupy HF channels as a form of jamming. White noise or overmodulated audio is still used against Radio Free Asia and the Taiwanese broadcasts to the mainland. Incidentally some of the overmodulated jammers come out as narrow-band FM signals on my FRG 7700.

The *Voice of America* from Washington DC has ditched its popular media program, "Communications World". The compere, Dr. Kim Andrew Elliot, has returned to the audience research unit. There are only three remaining media or DX programs remaining on shortwave; Glenn Hauser's "World of Radio" over WWCR and RFPI, "Cumbre DX", hosted by Marie Lam over the World Harvest Network and the long-running "DX Partyline" over HCJB in Ecuador. There has been a rumour that the latter may be the next one to fall.

For many decades mariners have

become used to receiving weather FAX pictures via Australian defence senders. This will change on June 30<sup>th</sup>, when these will close and re-open from a private contractor with senders at Charleville, QLD and in WA, utilising the identical channels. The same outfit will also take over the Telstra RADPHONE channels, which means that Sydney, Melbourne and Perth Radio will also go. I believe that the new operators are linked to Taupo Maritime Radio in NZ. I believe that there have been misgivings within the maritime community, particularly within south Eastern Australia, that the station is located at Charleville. The other maritime station, Penta COMMSTAT in NSW, will probably cover that region.

The Afghan crisis continues and Radio Free Afghanistan commenced at the end of February, following the passing of legislation in the US Congress. This really is a reactivation as this station operated in the early 80's under auspices of RFE/Liberty and this is where the operation will be based. Incidentally the latter station may be quickly relocated from Prague, after the Czech Government became increasingly nervous after September 11<sup>th</sup>. The studios are presently located in the centre of Prague and the authorities want to move them to a secure location away from there. The Americans are reluctant to move but may be forced to relocate elsewhere in Europe.

Despite the new station commencing, the signal on 8700 kHz continues at 1230Z. This Psychological Operations station may cease at very short notice, especially after Radio Free Afghanistan takes over. The London-based Radio Afghanistan via Samara in Russia, continues on 9950 kHz. Recent news

reports that the interim administration in Kabul is experiencing difficulties from local warlords. This could see a dramatic increase in clandestine broadcasting from nations such as Iran and the CIS nations, especially Russia.

Don't forget that Europe and the CIS nations will revert to Daylight Saving Time on the 31<sup>st</sup> of March. This is when the majority of frequency and time alterations take place. Israel also goes on to daylight saving early in April and the USA reverts on the first Sunday in April. Also those Australian states on summertime go back to Standard time on the 31<sup>st</sup>. Our Kiwi friends go back on the 15<sup>th</sup> of March.

In conclusion, may I ask correspondents using emails not to include any attachments? I recently received several that had viruses and the correspondents were completely unaware that they were there. It is a very good idea to have antivirus software as a protection. Unfortunately I recently lost over 160 emails before reading them, due to a nasty virus called Backdoor. This disabled my antivirus software before wiping out the inbox. So be alert and aware.

That is all for March, A happy Easter to all. 73 de VK7RH

ar

**Amateur  
Radio**  
another membership  
service from your  
**WIA**

# Adelaide-Ottawa

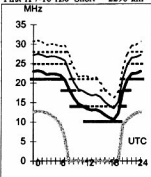
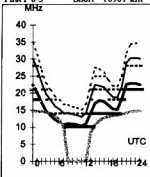
58

# Brisbane-Auckland

123

First F 0-5 Short 16901 km

First 1F7-10 1E0 Short 2290 km



March 2002

T Index: 110

## Legend

UD

E-MUF

F-MUF

OWF

ALF

>10%

>20%

>30%

>40%

>50%

>60%

>70%

>80%

>90%

Time scale

# HF Predictions

by Evan Jarman VK3ANI

34 Alandale Court Blackburn Vic 3130

These graphs show the predicted diurnal variation of key frequencies for the nominated circuits.

These frequencies as identified in the legend are:-

- Upper Decile (F-layer)
- F-layer Maximum Usable Frequency
- E-layer Maximum Usable Frequency
- Optimum Working Frequency (F-layer)
- Absorption Limiting Frequency (D region)

Shown hourly are the highest frequency amateur bands in ranges between these key frequencies, when usable. The path, propagation mode and Australian terminal bearing are also given for each circuit.

These predictions were made with the Ionospheric Prediction Service program: ASAPS Version 4

# Adelaide-Singapore

311

# Brisbane-Los Angeles

59

# Canberra-London

136

# Darwin-Honolulu

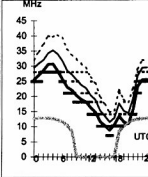
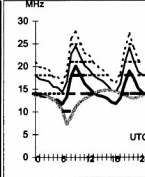
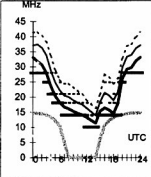
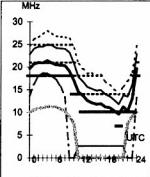
65

Second 3F11-17 : Short 5414 km

Second 4F3-8 4E1 Short 11564 km

First F 0-5 Long 23042 km

Second 4F8-16 4I Short 8635 km



# Adelaide-Tel Aviv

291

# Brisbane-Manila

320

# Canberra-London

316

# Darwin-Osaka

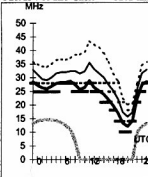
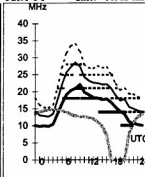
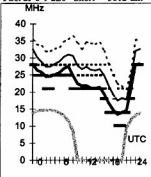
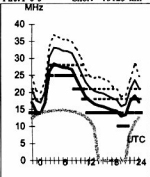
5

First F 0-5 Short 13125 km

First 2F3-9 2E0 Short 5812 km

First F 0-5 Short 16982 km

First 2F4-11 2E0 Short 5262 km



# Adelaide-Wellington

114

# Brisbane-Rome

305

# Canberra-Pretoria

231

# Darwin-Seattle

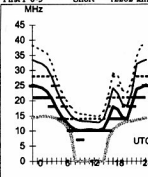
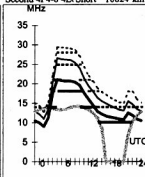
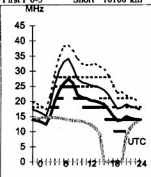
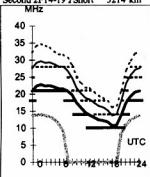
44

Second 2F14-19 : Short 3214 km

First F 0-5 Short 16108 km

Second 4F4-8 4E1 Short 10824 km

First F 0-5 Short 12282 km

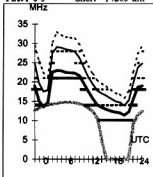




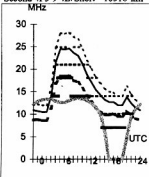
**Hobart-Cairo**

278

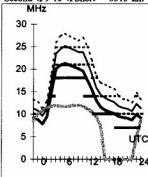
First F 0-5 Short 14263 km

**Melbourne-Capetown 222**

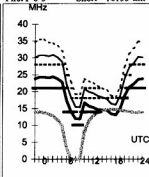
Second 4F5-9 4E1 Short 10318 km

**Perth-Johannesburg 246**

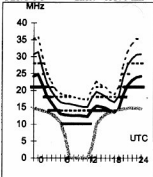
Second 4F9-13 4I Short 8315 km

**Sydney-Barbados 119**

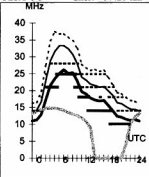
First F 0-5 Short 16155 km

**Hobart-Chicago 72**

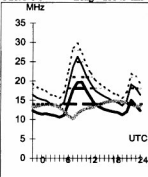
First F 0-5 Short 15576 km

**Melbourne-Moscow 316**

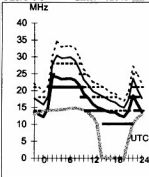
First F 0-5 Short 14428 km

**Perth-London 133**

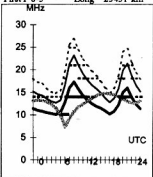
First F 0-5 Long 25543 km

**Sydney-Nairobi 255**

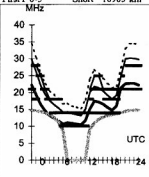
First F 0-5 Short 12148 km

**Hobart-Oslo 138**

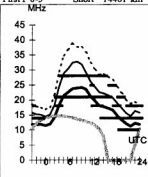
First F 0-5 Long 23451 km

**Melbourne-Quebec 60**

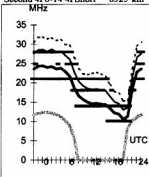
First F 0-5 Short 16903 km

**Perth-London 313**

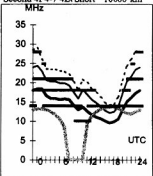
First F 0-5 Short 14481 km

**Sydney-Seoul 340**

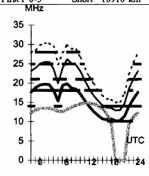
Second 4F8-14 4I Short 8325 km

**Hobart-Santiago 149**

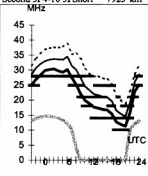
Second 4F4-7 4E1 Short 10688 km

**Melbourne-Senegal 219**

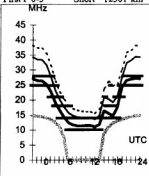
First F 0-5 Short 16910 km

**Perth-Tokyo 20**

Second 3F4-10 3I Short 7923 km

**Sydney-Vancouver 45**

First F 0-5 Short 12501 km



# HAMADS

- Hamads may be submitted by email or on the form on the reverse of your current Amateur Radio address flysheet. Please print carefully, especially where case or numerals are critical.
- Please submit separate forms for For Sale and Wanted items, and be sure to include your name, address and telephone number (including STD code) if you do not use the flysheet.
- Eight lines (forty words) per issue free to all WIA members, ninth and tenth lines for name and address. Commercial rates apply for non-members.
- Deceased estates Hamads will be published in full, even if the ad is not fully radio equipment.
- WIA policy recommends that the serial number of all equipment for sale should be included.
- QTHR means the address is correct in the current WIA Call Book.
- Ordinary Hamads from members who are deemed to be in general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being re-sold for merchandising purposes.
- Commercial advertising (Trade Hamads) are pre-payable at \$25.00 for four lines (twenty words), plus \$2.25 per line (or part thereof), with a minimum charge of \$25.00. Cheques are to be made out to: WIA Hamads.
- Copy should be typed or in block letters, and be received by the deadlines shown on page 1 of each issue of Amateur Radio, at:

Email: [newsletters@ozemail.com.au](mailto:newsletters@ozemail.com.au)

Fax: 03 9756 7031

Postal: Newsletters Unlimited, PO Box 431, Monbulk Vic 3793

**Please send your Hamad by ONE method only (email preferred)**

## FOR SALE NSW

- 2048A new in box \$350. TS-50 \$950. R-5000 \$500. TET tri band beam, tilt over crank up tower with rotator \$600. PS-50 and PS-430 supplies \$250 and \$225. YAESU 1000 MP \$4500. an VK2XU, QTHR, Phone 02 6584 9922.
- Free: RIKADENKI 6-pen chart recorder with high quality solid state DC amplifier. ALDEN solid state fax receiver ex RAAF. HEATH Impscope CRO specialised for analysing nerve impulses. All items large 1970s vintage, suit 19 inch rack or large shelving. Unused lately but good condition. You collect. Contact John vk2duw@wia.org.au

## WANTED NSW

- YAESU FT-690 6 metre portable transceiver. Bob VK2CAN. Phone 02 9416 3727

## FOR SALE VIC

- POWER SUPPLY 40 A variable output with 13 volt fixed over voltage protection \$200. FT-7 xcvr, goes well with 15 A power supply \$250. Prop pitch motor with supply and direction indicator \$180. 150 watt solid state broadband amp \$150. Restored VAUGHAN radio telephone less xtals \$50. Les VK3CX, Phone 03 5422 2860
- ICOM IC-745 transceiver, serial no 02053, good order except notch filter not working, complete with FM board and service manual, all WARC HF bands \$800 one. Rodney Champness VK3UG, QTHR, Phone 03 5825 1354
- TONO 5000E SN532800 sends and receives Morse etc. Good condition \$300 or offer. MFJ Turbo packet radio controller model MFJ1270B SN01023736 \$80 one. Ted VK3XT Phone 03 5257 3375
- REVEX power/swr meter 1.6 to 525 MHz, 2/20/200 W, new in carton \$160 (cost \$268). NIPPON antenna rotator with 50ft control cable plus 5 el 2 m yagi and 70 cm Ringo \$150 (not suitable for HF beams). Pick up only. Andy VK3UJ. QTHR, Phone 03 9723 8380.

- TOWER For Sale: 6 heavily galvanized 380 triangular sections, each 3 m long, plus base 1 m long with all guy wires bolts and fittings. Dismantled. 19 m total length. Quality heavy duty tower. Price \$400. Bill VK3JUL, Bendigo Phone 03 5439 6321, email wjcmck@netcon.net.au

- Two only military type radio sets, model WS 38 Mk. 3, made by M.R. Pty. Ltd. Tuning Range from 7.4 to 8.8 MHz approx. Measures about 180 X 100 X 260, with cables, headsets and microphones, plus 1 instruction set, printed on aluminium sheets. Cases in good order, no antennae, cables need work. What offers? Don VK3DBB, QTHR, Phone (03) 5941 1351 A.H. only, or email to vk3dbb@ozemail.com.au

- ANTENNAS and Masts. 3 element 40 m Beam 32ft. 3 Element 20 m Beam 24ft. 2x7 Element 2 m Beams. Prop Pitch Motor with controller. 27MHz Vertical (base Station) Aircraft Antenna (base Station). 3 Element 10 m H/Duty Beam. Hard Drawn Copper Wire 2mm diameter several hundred feet. Numerous mobile antennas including multi and duo band. UHF Twin dish antenna with power divider. Numerous Towers. Les Davis VK3CX, PO Box 270, Kyneton, Victoria Phone 03 5422 2860

- ICOM 271A 2 m multimode transceiver fitted with CI-V, UX-14 computer control interfaces. ICOM 471A 70cm multimode transceiver. Both units are modified for 9600 baud terrestrial and satellite operation. Both complete in original boxes with microphones and handbooks. \$1500.00 the pair. Excellent condition. Bob VK3BNC, QTHR, Phone 03 5339 5317 or email terrill@giant.net.au

- Boatanchor, WESTON LM160B VHF base station all valve through to QOE06-40 final. Xtals for 146.5, also Weston mobile all valve, final YL1240 also Xtals for 146.5. Eminently collectable. \$50 the lot incl spare QOE06-40. QTH Sale. Max VK3VI, Phone 03 5144 2687.

## WANTED VIC

- DTMF Dialler with memory. Kevin VK3HKW. QTHR, Phone 03 9836 1587
- OLD TIMER working on valve equipment needs a valve tester. Any offers? Bill VK3ZW Phone 03 9598 6304
- JR RADIO SERVICE HANDBOOK VR series 1984. Instructions for Valve tester TMS T-36B. JOHNSON VIKING 500 transmitter and handbook (circa 1957). Rodney Champness VK3UG QTHR, Phone 03 5825 1354.
- COMMAND RECEIVER 1.5 - 3MHz. I.F. 705kHz, R25 BC454. Geoff Beauchamp L31551 Phone 03 9509 3926
- Somewhere in Australia must be the other half of my NATIONAL FRR-59A Receiver! I need the front end section to make the radio complete. Shipping happily paid from anywhere in Australia. Please contact Morris VK3DOC, Phone 03 9824 8988 or email morriso@vifp.monash.edu.au
- Mono NAGRA with power supply. Pilot tone not required. Peter, VK3FFL, qwang@tpg.com.au
- US Navy RAL receiver must be substantially complete and capable of restoration to its former glory. Wireless set No 208 ORP 2.6- 3.6 MHz transmitter-receiver made by Radio Corporation Pty., Melbourne during WWII. Desperately need Tx Master Oscillator (VFO) dial, tuning capacitor and coil (L7a & C16a), or complete unit any condition. Contact Kevin Luxford VK3DAP, QTHR, Mobile 0438 003 474, NOT BEFORE noon on any day.

- In 1971 I sold a 9 valve homebrew HF Rx in a hammetone case tuning 6 to 7MHz with an EDDYSTONE 898 dial. If still existing and in reasonable condition, I would like to repurchase. Phone or SMS Grant, L30903 Mobile 0418 331 538

- CIRCUIT DIAGRAM for an ICOM IC-20 FM transceiver. Contact Ian AH Phone 03 5751 1631, or email lorlan@net.net.au.

## WANTED QLD

- YAESU G5400B or equivalent rotator AZ & Elevation with computer connection. VK2ZFO. Not QTHR. N E Griffiths Phone 07 5474 4360
- VIBROPLEX Bug. Contact Bill VK4WMC QTHR, Phone 07 5541 4730

- Wanted dearly by simple mind, a random word Morse generator (non-computer). Also a paddle and/or bug and Morse teaching tapes from 20 to 30 wpm, in good and operational condition. Please reply to Ron VK4AJV, rhvette@gymple.big.net.au or phone 07 5488 0268

## FOR SALE WA

- ICOM IC-751A SSB/CW/FM/AM 1.8 - 30MHz 100 W transceiver, including WARC bands and general coverage receiver from 100kHz to 30MHz. Complete with IC-HM12 microphone, dual 500Hz CW filters and manual. Excellent condition. \$750. CDE Ham-M heavy duty rotator, with controller, lots of rotator cable and manual. Good condition. \$250. Triangular lower mast section and cast iron base of Hills 57 Teletower. \$100. Six 'Power Rod' fiberglass fishing rod blanks - 9' 4" long. Suit 21/24/28MHz 2-element delta loop antenna or similar. \$100 the lot. Steve Ireland, VK6VZ. Phone: 08 9298 9330 or email: [sire@iinet.net.au](mailto:sire@iinet.net.au)

## WANTED WA

- Power transformer for YAESU YO-901 multiscope or old unit with good transformer in it. VK6ABS QTHR, Phone 08 9075 4136
- 20 pf variable air caps for Tx/Rx QRP CW, reduction drive gears. Dig into those junk boxes. All values of air caps needed for home brew station. Karl, PO Box 164, Greenbushes, 6254 WA

## MISCELLANEOUS

- The WIA QSL Collection (now Federal) requires QSLs. All types welcome, especially rare DX pictorial cards, special issue. Please contact the Hon Curator, Ken Matchett VK3TL, 4 Sunrise Hill Road, Montrose Vic 3765, tel. (03) 9728 5350

<http://www.hamsearch.com>  
a not-for-profit site that is a search engine for hams

## New WIA Members

The WIA bids a warm welcome to the following new members who were entered into the WIA Membership Register during the month of FEBRUARY.

L21095 Mr P E Bell  
L30984 Mr K E Bert  
L30985 Mr E J Gilbertson  
L40371 Mr A Perry  
L50370 Mrs M E Rodgers  
VK1KRF Mr K M Richens  
VK2AAC Mr Z Novak  
VK2IFT Mr J S Brown  
VK2IUT Mr K R Virtue  
VK2TRD Mr E Baker JP  
VK2YKB Mrs K Boskos  
VK2ZB Mr M Regan  
VK3APM Mr P McGill  
VK3AUR Mr M Wimborme  
VK3BD Mr B Dodgson  
VK3IS Mr D A Bickerdike  
VK3JLB Mr L Billson  
VK3JYD Mr H Evans  
VK3MCF Mr M C Franck  
VK3MED Mr D Lording  
VK3QO Mr D Bellair  
VK3SK Mr R E Slutskin  
VK3TRC Mr R Cook  
VK3TSM Mr S Burrows  
VK3VET Mr Z Filuk  
VK3WEP Mr R B Weppner  
VK3XXX Mr M Beacham  
VK3ZHS Mr A Howes  
VK4CCV Mr P Moscat  
VK4CRO Mr R F Croucher  
VK4CRT Mr A Meachen  
VK4KAD Mr I Tinney  
VK4PB Mr P C Breed  
VK4UU Murrumba Comm. Group  
VK5PDA Mr B J Juett  
VK7DY Mr K Sulman  
VK8NSB Mr S L Birkin

## ADVERTISERS INDEX

Icom.....IBC  
Tower Communications.....26  
WIA Call Book.....JFC

## TRADE ADS

### PSK-31, SSTV, RTTY SOUNDBOARD INTERFACES

Fully isolated, ready to plug in.  
<http://www.G3LIV.CO.UK>  
johnny@melvin.com, G3LIV QTHR.

### AMIDON FERROMAGNETIC CORES:

For all RF applications. Send business size SASE for data/price to RJ & US Imports, PO Box 431, Kiama NSW 2533 (no enquiries at office please. 14 Boany Ave Kiama). [www.catchnet.com.au/~rjandusimports](http://www.catchnet.com.au/~rjandusimports)

Agencies at: Active Electronics Tas; Truscotts Electronic World, Melbourne; TTS Systems, Tyabb; Tower Communications, Perth; Haven Electronics, Nowra.

### HF, VHF, UHF ANTENNAS & ACCESSORIES

Alum towers, guys etc. Diamond VSWR/PWR meters. HD copper ant wire & insulators. TX tubes & pwr transistors. Quality coax cables & connectors. Free advice & catalogue.  
ATN Antennas Ph 03 5492 2224 Fax 03 5492 2666, email stnatt@ruralnet.net.au

## For Sale by Tender: CFA's HF Radio System

**CFA is disposing of its surplus HF (2 -12 MHz) radio equipment.**

This consists of a quantity of 85 solid state PCM Hawk Xtal controlled 12V DC 100W mobile radios (no mics or other accessories available) and 3 Codan (1 kW) HF SSB base transmitters comprising a Xtal controlled exciter and valve PA. The fixed installation HF antenna system and remote operating equipment for the Codan radios is also available for sale.

The Hawk radios are held in store and the Codan radios are installed at CFA's training college. It will be the purchaser's responsibility to remove the equipment from site, as the equipment will be sold on site on an as-is, where-is basis. Limited spares are available together with handbooks and service manuals.

## "Hey, Old Timer..."



If you have been licensed for more than 25 years you are invited to join the

### Radio Amateurs Old Timers Club Australia

or if you have been licensed for less than 25 but more than ten years, you are invited to become an Associate Member of the RAOTC.

In either case a \$2.50 joining fee plus \$8.00 for one year or \$15.00 for two years gets you two interesting OTN Journals a year plus good fellowship.

Write to

RAOTC,  
3/237 Bluff Road  
Sandringham VIC 3191

or call Arthur VK3VQ on 03 9598 4262 or Allan VK3AMD on 03 9570 4610, for an application form.

The Xtals must be replaced for local use as CFA will retain its licenced frequencies. HF frequency operating licenses are available from the ACA. CFA wishes to dispose the surplus equipment at the earliest opportunity, ideally as a complete package.

CFA reserves the right not to accept the highest bid or any bid.

**Tenders can be mailed to:**

Nick Yoannidis, Project Manager, CFA  
Communications Department,  
PO Box 701, MT WAVERLEY VIC 3149.

**Tenders close: 1 May 2002**

**Enquiries: 03 9262 8535 or**  
[n.yoannidis@cfa.vic.gov.au](mailto:n.yoannidis@cfa.vic.gov.au)

## Radio Amateurs Old Timers Club March Luncheon

**Speaker: Jim Karamalakos, Senior Testing Officer, Radiation Compliance Laboratories,  
Australian Communications Authority**

### Forthcoming EMR Regulations and their Significance for Amateur Radio Operators

Bentleigh Club, Yawla Street, Bentleigh (Melways 68.B11)

**Tuesday, March 12 at 12.30pm**

Cost: \$27.50 Inc GST

Enquiries: Arthur Evans VK3VQ 9598 4262

### TRADE PRACTICES ACT

It is impossible for us to ensure that the advertisements submitted for publication comply with the Trade Practices Act 1974. Therefore, advertisers and advertising agents will appreciate the absolute need for themselves to ensure that the provisions of the Act are strictly complied with.

### VICTORIAN CONSUMER AFFAIRS ACT

All advertisers are advised that advertisements containing only a PO Box number as the address cannot be accepted without the addition of the business address of the box-holder or seller of the goods.

# Over To You

## VK5SIG

The Royal Australian Signals Association (S.A.) during the year 2000 operated special event station V15RAS as a celebration of the Corps 75<sup>th</sup> birthday.

Recently a permanent licence was obtained and is the property of the above association. Within our ranks we have four qualified amateurs who will manage the station.

Actual station policy and type of activity has yet to be decided, however it will definitely not be a DX chaser, we are more interested in making radio contact with other local and interstate amateurs plus where possible contact with similar associations, societies etc. here in Australia and overseas.

Some of the proposed activities are as follows:

1. Take part in the yearly RD contest.
2. Establish a regular net.
3. Be involved with the Royal Signals Amateur Radio Association.
4. Involve serving members of 144 Sig. Sqn.
5. Be in contact with as broad a range of amateurs as possible.
6. Contribute to, and help increase activity on the amateur bands.

By the time this notice goes to print the station should be active, should you have a common interest or require more information please don't hesitate to contact myself or Brian Stevens (VK5FV).

Godfrey Williams, VK5BGW

## Errata: Division Directory

Please note: the following information was omitted from the Division Directory at the time of going to press. It will be included in the April Division Directory. We apologise for any inconvenience.

Fees			
Div	F Grade	G Grade	X Grade
VK1	\$80.00	\$71.00	\$48.00
VK2	\$80.00	\$63.00	\$50.00
VK3	\$83.00	\$67.00	\$51.00
VK4	\$95.00	\$81.00	\$69.00
VK5	\$88.00	\$73.00	\$58.00
VK6	\$71.00	\$65.00	\$39.00
VK7	\$90.00	\$77.00	\$57.00

### VK4 details:

President	Ewan McLeod VK4ERM
Secretary	Bob Cummin VK4YBN
Treasurer	Bill McDermott
VK4AZM	

- Note 1 Views expressed in letters are those of the authors and do not necessarily represent the policy of the WIA.  
2. Some of the letters may be shortened to allow more letters to be published.

## Complaint about the spurious emissions from Radio Pyongyang, DPR-Korea

### From:

Secretary, IARU- Region 3 HQ,

Tokyo, JAPAN.

Copy to : Chairman, IARU-Region 3, Sir,

I had submitted a complaint in June 2000, about Radio Pyongyang, DPR-Korea, using the frequency of 3560 kHz, for regular broadcasting. This was discussed in the Directors' Meeting in August/September 2000.

I am now submitting a more serious complaint regarding the unsuppressed spurious and harmonic emissions from the same station- Radio Pyongyang.

These have been reported in the 20, 15 and 10 metre bands, from many countries.

The paragraph No. S 15.1 of the Radio Regulations as adopted by WRC-1995 details that "All stations are forbidden to carry out unnecessary transmissions or the transmission of superfluous signals etc..."

Thus, the present complaint is about the violation of paragraph S 15.1

I have enclosed all the supporting documentation for the complaint first, and in the end, I have completed the Proforma Appendix S-10, for ready submission.

The above detailing has already been shown to the International Coordinator and his approval obtained for further processing at your end.

Kindly process at the Headquarters the above complaint and if possible, action may kindly be taken to process it through the ITU itself, as the complaint covers many frequencies simultaneously.

Thank you,  
Yours faithfully,  
B.L. Manohar  
"Arasu" Regional MS Coordinator  
Dated 05 Jan 2002..

## Complaint on the unsuppressed harmonics and spurious signals from Radio Pyongyang-DPR-Korea

Apart from broadcasting regularly on 3560 kHz, an amateur frequency, (about which a complaint was filed with the R3HQ in June 2000)

Radio Pyongyang of DPR Korea has also been reported to be transmitting harmonics and spurious unsuppressed signals from its various SW transmitters on the various amateur frequency bands of 20, 15 and 10 metre bands. This has been going on for over FIVE years and has been regularly reported by the MS Organisations of the Regional National Societies, reflected through the Monthly

Reports of the Region 3 and 2.

These signals have been reported even from the countries like Argentina, USA and Canada of Region 2. While the signal strengths are QSA 3 to 4 in Region 2 Countries, they are consistently higher, in the Region 3 countries. The worst of the interference from these various harmonics/spurious emissions is suffered by the Amateur Radio Fraternity of JARL, who have been regularly reporting in huge numbers and strengths. This does not mean that countries like, China, South Korea,

Taiwan, Hong Kong and others are not suffering this interference. Unfortunately, there are no established and functional Monitoring Systems in these countries, or the neighbouring countries of DPR-Korea, to report and substantiate this Complaint.

**Editors note:** some 6 pages of detail followed which we do not have the space to present. Anyone wanting the full report should e-mail me or the WIA IW Convenor VK8HA, at vk8ha@octa4.net.au.



# Division Directory

The Amateur Radio Service exists for the purpose of self training, intercommunication and technical investigation. It is carried out by amateurs who are duly authorised people interested in radio technique solely with a personal aim and without pecuniary interest.

The Wireless Institute of Australia represents the interests of all radio amateurs throughout Australia. National representation is handled by the executive office under council direction. There is one councillor for each of the seven Divisions. This directory lists all the Divisional offices, broadcast schedules and subscription rates. All enquiries should be directed to your local Division.

**VK1 Division** Australian Capital Territory,  
GPO Box 600, Canberra ACT 2601  
President Gilbert Hughes  
Secretary Peter Kloppenburg  
Treasurer Linden S Orr

VK1GH  
VK1CPK  
VK1LSO

**VK2 Division** New South Wales  
109 Wigram St, Parramatta NSW  
(PO Box 432, Harris Park, 2150)  
(Office hours Mon-Fri 1100-1400)  
Phone 02 9689 2417  
Web: <http://www.ozemail.com.au/~vk2w>  
Freecall 1800 817 644  
e-mail: [vk2w@ozemail.com.au](mailto:vk2w@ozemail.com.au)  
Fax 02 9633 1525

President Terry Davies  
Secretary Pat Leeper  
Treasurer Chris Minahan

VK2KDK  
VK2JPA  
VK2EJ

**VK3 Division** Victoria  
40G Victory Boulevard Ashburton VIC 3147  
(Office hours Tue 10.00 - 2.30)  
Phone 03 9885 9261  
Web: <http://www.viawic.org.au>  
Fax 03 9885 9298  
e-mail: [viawic@viawic.org.au](mailto:viawic@viawic.org.au)  
President Jim Linton  
Secretary John Brown  
Treasurer Barry Wilton

VK3PC  
VK3JJB  
VK3XV

**VK4 Division** Queensland  
PO Box 199, Wavell Heights, Qld. 4012  
Phone 07 3221 9377  
e-mail: [office@wiaq.powerup.com.au](mailto:office@wiaq.powerup.com.au)  
Fax 07 3256 4929  
Web: <http://www.wiaq.org.au/vk4>  
President Bill Riis  
Secretary Bruce Jones  
Treasurer Bill McDermott  
Office Mgr John Stevens

VK4YCU  
VK4EHT  
VK4AZM  
VK4AFS

**VK5 Division** South Australia and Northern Territory  
(GPO Box 1234 Adelaide SA 5001)  
Phone 0403 368 066  
web: <http://www.sant.wia.org.au>  
email: [peter.reichelt@bigpond.com](mailto:peter.reichelt@bigpond.com)  
President David Minchin  
Secretary Peter Reichelt  
Treasurer Trevor Quick

VK5KK  
VK5APR  
VK5ATQ

**VK6 Division** Western Australia  
PO Box 10 West Perth WA 6872  
Phone 08 9351 8873  
Web: <http://www.vk6wia.org>  
e-mail: [vk6wia@inet.net.au](mailto:vk6wia@inet.net.au)  
President Neil Penfold  
Secretary Christine Bastin  
Treasurer Bruce Hedland-Thomas

VK6NE  
VK6ZLZ  
VK6OOC

**VK7 Division** Tasmania  
PO Box 371 Hobart TAS 7001  
Phone 03 6234 3553 (BH)  
Web: <http://www.tased.edu.au/tasonline/vk7/wia>  
also through <http://www.wis.org.au/vk7>  
email: [batesjw@netspace.net.au](mailto:batesjw@netspace.net.au)  
President Phil Corby  
Secretary John Bates  
Treasurer John Bates

VK7ZAX  
VK7RT  
VK7RT

## Broadcast schedules All frequencies MHz. All times are local.

**VK1WI:** 3.590 LSB, 146.950 FM each Thursday evening from 8.00pm local time. The broadcast text is available on packet, on Internet [www.usa.radio.amateur.misc](http://www.usa.radio.amateur.misc) news group, and on the VK1 Home Page <http://www.vk1.wia.ampr.org>

**Annual Membership Fees.** Full \$77.00 Pensioner or student \$70.00. Without Amateur Radio \$48.00

From VK2WI 1.845, 3.595, 7.146\*, 10.125, 14.160, 24.950, 28.320, 29.120, 52.120, 52.525, 144.150, 147.000, 436.525, 1281.750 (\* morning only) with relays to some of 18.120, 21.170, 584.750 ATV sound. Many country regions relay on 2 m or 70 cm repeaters. Sunday at 1000 and 1930. Highlights included in VK2AWX Newcastle news, Monday 1930 on 3.593 plus 10 m, 2 m, 70 cm, 23 cm. The broadcast text is available on the Internet newsgroup [www.usa.radio.amateur.misc](http://www.usa.radio.amateur.misc), and on packet radio.

**Annual Membership Fees.** Full \$78.00 Pensioner or student \$61.00. Without Amateur Radio \$47.00

**VK3BWI** broadcasts on the 1st Sunday of the month at 20.00hrs Primary frequencies, 3.615 DSB, 7.085 LSB, and FM(R)s VK3RML 146.700, VK3RMM 147.250, VK3RWG 147.225, and 70 cm FM(R)s VK3ROU 438.225, and VK3RMY 438.075. Major news under call VK3ZWI on Victorian packet BBS and WIA VIC Web Site.

**Annual Membership Fees.** Full \$78.00 Pensioner or student \$61.00. Without Amateur Radio \$47.00

**VK4WIA** broadcasts on 1.825 MHz SSB, 3.605 MHz SSB, 7.118 MHz SSB, 10.135 MHz SSB, 14.342 MHz SSB, 21.175 MHz SSB, 28.400 MHz SSB, 29.660 MHz FM (rptr), 147.000 MHz, and 438.525 MHz (in the Brisbane region, and on regional VHF/UHF repeaters) at 0900 hrs K every Sunday morning. QNEWS is repeated Monday evenings, at 19.30 hrs K, on 3.605 MHz SSB and 147.000 MHz FM. On Sunday evenings, at 18.45 hrs K on 3.605 MHz SSB and 147.000 FM, a repeat of the previous week's edition of QNEWS is broadcast. Broadcast news in text form on packet is available under WIAQ@VKNET. QNEWS Text and real audio files available from the web site

**Annual Membership Fees.** Full \$83.00 Pensioner or student \$71.00. Without Amateur Radio \$52.00

**VK5WI:** 1827 kHz AM, 3.550 MHz LSB, 7.095 AM, 14.175 USB, 28.470 USB, 53.100 FM, 147.000 FM Adelaide, 146.800 FM Mildura, 146.900 FM South East, 146.925 FM Central North, 438.475 FM Adelaide North, ATV Ch 35 579.250 Adelaide. (NT) 3.555 USB, 7.065 USB, 10.125 USB, 146.700 FM, 0900 hrs Sunday. The repeat of the broadcast occurs Monday Nights at 1930hrs on 3585kHz and 146.675 MHz FM. The broadcast is available in 'RealAudio' format from the website at [www.sant.wia.org.au](http://www.sant.wia.org.au) Broadcast Page area.

**Annual Membership Fees.** Full \$82.00 Pensioner or student \$68.00. Without Amateur Radio \$54.00

**VK6WIA:** 146.700 FM(R) Perth at 0930hrs Sunday relayed on 1.865, 3.564, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120 FM, 50.150 and 438.525 MHz. Country relays 3.582, 147.200 (R) Catby, 147.350 (R) Busseton, 146.900 (R) Mt William (Bunbury), 147.000 (R) Katanning and 147.250 (R) Mt Saddleback. Broadcast repeated on 146.700 at 1900 hrs Sunday relayed on 1.865, 3.564 and 438.525 MHz : country relays on 146.900, 147.000, 147.200, 147.250 and 147.350 MHz. Also in 'Real Audio' format from the VK6 WIA website

**Annual Membership Fees.** Full \$67.00 Pensioner or student \$61.00. Without Amateur Radio \$36.00

**VK7WI:** 146.700 MHz FM (VK7RHT) at 0930 hrs Sunday relayed on 147.000 (VK7RAA), 146.725 (VK7RNE), 146.825 (VK7RMD), 3.570, 7.090, 14.130, 52.100, 144.150 (Hobart), repeated Tues 3.590 at 1930 hrs.

**Annual Membership Fees.** Full \$85.00 Pensioner or student \$72.00. Without Amateur Radio \$52.00

**VK8** Northern Territory (part of the VK5 Division and relays broadcasts from VK5 as shown, received on 14 or 28 MHz).

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